DESIGN PUBLIC INFORMATION MEETING

TUESDAY, JUNE 3, 2014

AT

JOHN F. KENNEDY ELEMENTARY SCHOOL
SOMERVILLE, MASSACHUSETTS

FOR THE PROPOSED

Beacon Street Project
Project File No. 607209
Project Management Section

IN THE CITY OF SOMERVILLE, MASSACHUSETTS

COMMONWEALTH OF MASSACHUSETTS
MASSACHUSETTS DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION

FRANCIS A. DEPAOLA, P.E.
HIGHWAY ADMINISTRATOR

PATRICIA A. LEAVENWORTH, P.E.
CHIEF ENGINEER

PRESENTERS

Shawn Holland, Moderator, Project Management Section, MassDOT, Highway Division
Frank Suszynski, District 4 Office, MassDOT
Craig Sheehan, Right-of-Way Bureau, MassDOT
David Giangrande, Design Consultant, DCI
Sarah Spice, City of Somerville
Hayes Morrison, City of Somerville
Joe Sakelos, Arlington Typing & Mailing

SPEAKER INDEX

Speaker Index (Continued)

Exhibits

P R O C E E D I N G S

SHAWN HOLLAND, MODERATOR: Okay, we would like to start the public meeting now. Alright. So, for some of you coming, there is a sign-in sheet here, and there is a little handout that has some information about the meeting tonight. If you haven't picked one up, you can pick one up now or you can pick one up later.

Alright. I guess we will start. It's a nice evening and I know a lot of people want to go out after and enjoy themselves. I would just like you to know, my name is Shawn Holland. I am the Project Manager for the Massachusetts Department of Transportation. I work in the Highway Project Management Section and I have been assigned as the Project Manager for this project in Somerville.

Before we get into the meeting, again, there is a handout back there and attendance sheet. If you want to sign the attendance sheet, fine. If not, that's fine, too.

Essentially the format for tonight's public meeting will be, I will give you a brief background of the project in case some of you are not familiar with the project, which I am sure most of you are, and also explain MassDOT's involvement in this

project.

Then I will ask our Right-of-Way to explain the right-of-way requirements pertaining to this project. The City will be securing some temporary and permanent easements to construct the project. So, there are certain rights granted to private property owners. So, they will explain that to you, and then, I will have the consultant for the City give a presentation, and then we will open up for questions and comments.

I would like to introduce a few people here. We have our District 4 Office personnel, Frank Suszynski. We have our person from our Right-of-Way Section, Craig Sheehan. We have Joe Sakelos from Arlington Typing Service. He will be doing a transcript of tonight's public meeting. We have Dave Giangrande. He works for DCI. He is the consultant for the City. We also have Sarah Spicer and Hayes Morrison from the City, and I think the Alderman and Senator were supposed to be here but I don't see them yet.

Alright. I would like to open the public hearing by saying that MassDOT placed legal notices of this public hearing in several newspapers. It was

placed in the Boston Globe and the Somerville Journal on May 22nd and May 29th. It was also placed in the Somerville News on May 21st and May 28th. A copy of this legal notice is actually in the handout and will be included as part of the transcript.

If you can't hear me in the back, let me know. I will speak a little bit louder. I just want to give you a brief background on this project. As you know, Beacon Street is a local roadway. It is under the jurisdiction of the City of Somerville. Beacon Street, a lot of you may not know it, is actually a roadway of regional significance. It is part of what we call the National Highway System.

The City of Somerville has been working on this project for one or two years. They retained the service of a design consultant to prepare the design. Since the City is using federal and state funds to design and construct the project and since Beacon Street itself is on the National Highway System, and since MassDOT will actually advertise and construct the project on behalf of the City, there are certain design standards that the City needs to meet. The City also needs to comply with Federal and State requirements pertaining to right-of-way,

environmental permitting and public participation.

Right now, we want to make sure that the project meets all federal and state design requirements as much as possible. Design requirements now are getting more flexible as a way to encourage more green, or what we call Smart Development, Green Development, Complete Street. You hear all these terms. Essentially it is to encourage more multi-modal use, which is bike, pedestrian usage, and (trans 04:29) usage, and also to make these roadways and facilities safe for all these users.

I know the City has got about seven or eight public hearings concerning to this project. I have had the opportunity, along with other people from MassDOT, to attend them. I know they are well attended. A lot of good comments and questions came up and what we like to do from a MassHighway standpoint is that we have a public hearing at the twenty-five percent design stage but also we like to give you all the opportunity to review the plans again. Right now, the project is at seventy-five percent design. From this point on, in the next few months, the design will be completed and will go to

what we call a hundred percent design, and then the project will be advertised for construction.

Right now, if everything goes fine, the City hopes to complete the design by the end of the summer and advertise. It should be some time around September. The project probably won't start construction until next spring even though there is a possibility some small work will begin late fall or even winter, some part of the winter.

What I would like to do at this time is ask our Right-of-Way Section to explain the right-of-way procedures that the City of Somerville has to follow when securing any temporary and permanent easements, and then I will ask DCI to give a presentation. Craig.

CRAIG SHEEHAN: Thank you, Shawn. When the Commonwealth, acting through its Massachusetts Department of Transportation, indicated it would accept this project for funding under the Statewide Transportation Improvement Program, your municipality accepted certain responsibilities. One of those responsibilities is to acquire all the necessary rights in private and public lands for the design, construction and implementation of this project. My

function is to review and recommend procedures that your municipality will utilize in acquiring these rights.

The procedures used must comply with both Federal and State regulations. The current design plans indicate that two permanent easements and one hundred and seven temporary easements will be required. Your municipality may acquire the needed rights through a combination of donations, eminent domain, deed grants, permits or right-of-entries. Frequently, local municipalities will appeal for donations. Donation procedures minimize the acquisition cost for your community. Donations and rights-of-entries are not required and property owners are entitled to an appraisal and just compensation. This project cannot be advertised until the new proposed right-of-way is secured and the Massachusetts Department of Transportation's Right-of-Way Bureau issues a Right-of-Way Certificate.

Affected property owners' rights are protected under our Mass. General Laws, primarily Chapter 79 and, because this project is receiving Federal funds, the property owners' rights are

further defined under Title III of the Real Property Acts of 1970, as amended.

I will be happy to answer any questions concerning the Right-of-Way activities during the open forum, and I will be available after the hearing for any specific questions you may have. Thank you.

SHAWN HOLLAND, MODERATOR: Thank you, Joe. Next I would like to ask Dave Giangrande from Design Consultants to make a technical presentation. I would like to ask if you could wait until he goes through his presentation first, and then we can ask some questions and make an comments you want to make. Dave.

DAVID GIANGRANDE: I am going to turn this just a little bit so I can reference the screen if that is okay. Good evening. I am David Giangrande. I am a Registered Professional Engineer in the Commonwealth of Massachusetts and I have a Masters Degree in Transportation from Northeastern University. I am a Principal at Design Consultants in Somerville and I have been a Principal there for almost twenty-five years now.

I have got working for me Professional Traffic Operations Engineers, Registered Land

Surveyors, as well as several other registered professional engineers.

UNIDENTIFIED SPEAKER: Could you please speak closer to the microphone so you can be heard?

DAVID GIANGRANDE: So, as Shawn had mentioned, we have got a federal, local and state fund involved in this project, which is a good thing for a community. That means that it is getting a number of sets of eyes on the project, who are not only getting reviews from the department heads here locally but we are also getting all of the state agencies to chime in, MassDOT as well as the Federal Highway Administration, and so, we have gone through this process. We have moved from twenty-five percent design plans up to the seventy-five percent design plans.

We would like to just, or I would like to just briefly go over the existing conditions and the proposed conditions, tell you a little bit about the changes from the twenty-five percent design to the seventy-five percent design, the changes that we have made, and then do a little bit of a question and answer session, and then we will stay here until all your questions are answered as Shawn and Craig had

mentioned.

The project limits, first of all, it's -- the project limits are from the southeast of the bridge near Somerville Ave., and near Oxford Street, all the way to the City line down in this area here, which is at Dickerson. This is Washington Street here and Park Street. So, Oxford here, all the way to the Cambridge City line.

As part of the project, we are bringing forward a Complete Street. So, not only are we looking at vehicular movements and bicycle movements, but we are also really vested in the pedestrian movements, as well. For this entire project, you can see these sidewalks are in great need. We will be replacing all the sidewalks.

Additionally, in the section near the Academy of the Arts and Science, we will be adding a sidewalk at that location where currently Museum people have to cross Beacon Street, go down the other side, and then, if they want to go down Scott Street or down Washington Street towards Harvard Square, they would have to cross back over.

The roadway section is in really poor shape. The rideability is terrible for bicyclists.

It is also poor for vehicular transportation, as well, and you can see there are many patches and utility patches as well as poor definition of that edge of roadway. So, that will be one thing that we also work on.

Roadway improvements will start with everything from new crosswalks all the way through new traffic signals. We will have two fully actuated and coordinated traffic signals, one at Washington Street, and then one at Park Street. We will also have sort of a hybrid beacon system that is called a HAWK System, which is pedestrian actuated signals, pedestrian actuated so that the vehicles will stop specifically for the pedestrians, both at Buckingham Street as well as Sacramento.

On the traffic systems and the coordination between Park and Washington Street, we will set that at between a twenty-eight and a thirty mile an hour progression speed. That is what the current speed is out there on average. We will provide countdown peds for the pedestrians. We will also put in all new handicap ramps and make it all handicap accessible with tactile pads, as well. There will be bike actuation at each of these signalized intersections.

We are providing a left turn at Washington Street. It is a significant benefit not only for the vehicles making a left turn, to protect those vehicles, but also we found out there was a number of bicycle crashes at that location where vehicles were trying to sort of queue jump and move to the right and, as they were moving to the right, they had a crash with a bicyclist. So, we are making those improvements, as well. Throughout the project, we will use ornamental type traffic equipment and signal posts and mast arms.

Also, through the project, we are going to add approximately two hundred new trees, plus we are going to retain many of the existing trees. We are taking down approximately eight trees of twelve inch to fourteen inch caliper and up, and then, we have a total of twenty-two trees that are being taken down for various reasons. They have been looked at by an arborist in advance.

As I had mentioned, we are doing a Complete Street and part of the Complete Street is to provide pedestrian amenities throughout the entire project. This is a look at some of the amenities we are providing, new trash receptacles and bike racks,

benches, sidewalk pavers, which we will talk a lot about in terms of delineating space. We are doing all new concrete pavers side -- crosswalks, as well as the fluted mast arms that we spoke of. We are also introducing a cycle track and bike lanes in different sections and I will walk through those improvements, as well.

Anybody who lives along Beacon Street, they have already seen that there is some construction started. Shawn had referenced that you would see very little construction until probably next spring or maybe a little bit of construction this fall. That construction he refers to is the surficial work. This City, I think, is committed to sort of bottom/up approach to constructing roads. The first thing they do is they look at the utilities, especially the deep utilities, and make sure that we have replaced that infrastructure that you don't see, not just the infrastructure that you see at the surface.

So, right now, we have got water work being done, as well as a sewer lining, structural lining, so that we are assured that that infrastructure will be in good shape for the life of this proposed

roadway project. So, that is going on right now and many of you have probably seen it.

There is a little bit of held-over gas work, that the gas company replaced, updated their infrastructure back in 1998, and there are a few tie-ins and a few minor things that they need to do. So, we are hoping, by the end of the year, that it will be ninety to ninety-five percent complete with the City's utility work, water and sewer, and then we will start in the spring on the surficial work.

Changes since our last meeting, since the last public hearing, twenty-five percent design plans to the seventy-five percent design plans, we have made a number of changes. Some changes you would notice, some changes you wouldn't notice but they are of public safety. For instance, we have made minor baseline changes particularly at the intersection of Washington Street, to make sure that we have proper alignment, to avoid any potential for head-on collisions. So, we made some revisions in geometrics near Washington Street.

We also changed the mountable curb from a four to one to a six to one mountable curb. There were some concerns about potential slippage and other

elements.

Now, we still haven't finalized exactly what that mountable curb will be and I will walk you through this section so that you can understand the mountable curb but one thing we know is that we will have some sort of slip resistant coating on it, and it will more than likely be the concrete or bituminous.

The sidewalk along Harvard or the Academy went from five feet. We were able to squeeze out another six inches there, which doesn't sound like a lot but, when you are a pedestrian, an extra six inches of width on a sidewalk is certainly a benefit.

We applied for, and were successful in getting approval from Federal Highway for bike boxes. So, we are showing bike boxes at the major intersections at Park Street, as well as Washington Street. We are working through a number of issues with those bike boxes right now.

We also got approval to paint the bike lanes a green color to really bring out the definition and separate the pedestrian and bicyclists and vehicular travel.

One thing with respect to the green paint,

etc., you will see plans along the wall here. Those are filler, illustrative plans. If you want to look and get a deep dive, or a real look at the engineering, there is a seventy-five percent set of design plans, as well as right-of-way plans, sitting on the table and I would happy to walk you through anything on those plans after I conclude here.

Additionally, we were considering a change at the sidewalk at Sacramento, excuse me, the crosswalk at Sacramento. From that last meeting, we heard pretty strong response that it should remain where it is currently. So, we moved it back to the other side. That is reflected in those seventy-five percent design plan.

We also put the crosswalk back at Museum. At one time, we were proposing to take it out because we were adding the sidewalk along the wall there. So, really the need for a crossing at that location was a direct result of not having sidewalks. So, there was a strong opinion that that should remain. So, we have put that back in the project.

We have new crosswalks at Oxford and Greenwood Terrace and Prentiss, as well.

The other thing that we did is we met

several times with MBTA to talk about bus stop locations and the bus stop locations, we made a few minor changes to those. There was a mid-block bus stop between Park Street and Washington Street. The boarding and the alighting was very, very low at that location. In discussing it with MBTA, that particular bus stop was agreed to be removed.

We have made the Washington Street bus stop a near side bus stop which is on the -- which would be on the northwest side of the street, and then, also the bus stop near Park Street has been removed around the corner actually from Washington -- excuse me, from Beacon Street onto Park Street. So, there are three changes in terms of bus stops.

I just want to walk you through this section to remind you of what the sections are and how this will function. So, we have got a ten foot sidewalk here, followed by a six foot cycle track, and eleven foot travel lane, a thirteen foot travel lane and a seven foot parking lane. The reason why this is thirteen feet on this side is to facilitate the door zone and make sure that we have enough maneuverability. Then we have a nine foot cycle track and a ten foot sidewalk.

What that will look like, and this particular section is facing southeast towards Inman Square. The rendering is actually facing towards Porter Square in this particular one but all the rest of them will be consistent. So, this is what the sort of artist rendering look like and just some of the key features on this, as I had mentioned earlier, it is very important to delineate the space and this red brick course or Soldier Course is a very important element to delineate the pedestrian space from the bicyclist space. So, we will have gray sidewalk, followed by a red brick course, which is a furniture zone, and we will talk deeply about that furniture zone and how important that is, and then, the green cycle track, and then a vertical curb at this location.

On the other side, we have, this is the sloped curbed or the mountable curb, and then the cycle track, and then there is a reveal at this location, a three inch reveal here, followed by the furniture zone.

Now, the furniture zone is very important to delineate the space and there is a lot of concern about pedestrians in particular walking across,

walking across the cycle track. So, what we are trying to do is really identify the spaces in a number of different ways.

We have vertical elements, things like utility poles, hydrants, vertical curb. We have got trees. We will have trash receptacles and benches and bike racks, a lot of vertical elements that will be a distinct physical impediment.

We have also got color contrast. The color contrast is very important. So, if you are looking down, or whatever, you will see that you are -- eventually you will understand that that gray area is the pedestrian area, that gray area is the bicycle area, and so on and so forth. So, we are trying to really manage those spaces, and we will also manage this with an aggressive sign program, as well.

So, the next section, you can see it is very similar. This is facing towards Inman and it is just more of a little bit of a basic section and it is somewhere between Oxford and Sacramento.

This next illustration is very important and, again, this is all the same section that we had talked, spoken of at the beginning but what is very important about this is creating sight distance

triangles, and that is what these landscaped islands and these side streets really afford us. It affords us the opportunity for the vehicles to see the bicyclists and the bicyclists to see the vehicles. So, being able to have a sight, line of sight from here, from the driver directly across where that island is, will make a safer, a safer environment at those nodes.

In terms of planting on those islands, we will keep those islands really low. The landscape architect has designed a planting program, planting that is going to be hardy yet will not grow to the point where you won't be able to see the pedestrians and/or the bicyclists, etc. So, there is a well thought out planting plan.

The next section is down by the wall. We had mentioned the wall is right here, and we are forced to change this section of the roadway at that location. At that location, we are going to bike lanes. You can see on the left side here, we have got a full ten foot sidewalk, followed by your seven foot of parking. You have got the five foot bike lane, the eleven foot travel lane, eleven foot travel lane, five foot bike lane, and then we added this

sidewalk, which is a very important element in terms of the pedestrian improvement.

As I had mentioned before, we were able to tighten everything up a little bit and picked up another half a foot of sidewalk there. So, originally, that was five feet and we are now up to five and a half feet, and that is what it would, you know, the artist's rendering would look like, and you can see the pedestrian zones. You still have really great definition in terms of color contrast and, also, as we had mentioned about the islands at different locations.

The next section is down by Washington Street. That would be Washington Street to the City line, and we have ten foot sidewalks, seven foot parking lane, five foot bike lane, eleven foot travel lane, eleven foot travel lane, five foot bike lane, then the seven foot parking lane and the ten foot sidewalk.

Now, down in this area, we were able to move several utility poles and the reason why we could move utility poles at this location, and we had spoken a lot about utility poles and having to move them, through much of Beacon Street, there is both

water and sewer in the sidewalk. Down in this end, we have a little bit more flexibility. There are less utilities.

So, selectively, we were able to relocate a few of the utility poles so we get a more consistent width and carriage section here. So, right now I think, for instance, the bike and travel lanes vary from around eleven feet and around four feet in terms of the -- in terms of each lane width. So, we were able to make an improvement there for both vehicles, as well as bicyclists with a minimal impact to pedestrians.

There was a discussion also about the potential for a satellite lot. On May 21st, the City advertised for a satellite lot, satellite lot to improve parking between Oxford and Park Street. So, there is an RFP out on the street. If you know anybody that might be interested, please have them go the City web site. It is advertised in the Central Register as well as local papers. The City is managing that process right now and they are optimistic that, by the end of the summer or early fall, that they will have an opportunity to pick up some additional parking in that area, as well.

With that, that concludes my presentation. I will turn it back over to Shawn, and then I will be here for questions in a few minutes.

SHAWN HOLLAND, MODERATOR: Thank you, Dave. What I would like to do now is open for questions and comments but before I open for public comments and questions, what we like to do is, we have just a few ground rules. If you stand up and give us your name, if you have any affiliation and if you want to give us your address that would be great, so it will be included in the transcript.

There are not that many people here tonight but, in the past, we have had a lot, a lot of people and the question and answer period went very long. So, if you can keep your questions and comments to one, two, three minutes, that would be great. So, we can give an opportunity for everybody to get up and speak, and then, later on, after everyone has had an opportunity to speak, we can go back and open up again and, again, we will be around after the close of the hearing to answer any other questions you may have.

And normally we like to ask if there are any local officials offer them to go first and, if

not, then we will just open it up. If you want to come up here and speak, you can do that. I don't see the Alderman. Somebody want to speak? No? Alright. I guess we will open it up for questions and comments. I will just start here.

DAVID WATSON: Hi. I am David Watson from Mass Bike, the Massachusetts Bicycle Coalition. First, I want to say thank you to the City of Somerville and MassDOT for moving forward with this design and also for being so responsive over the course of many public meetings to the comments that have been received to improve the design and make it substantially better than when it was first proposed.

I do have some questions and comments. One is maybe a request. I know it is outside the scope of the project area but there needs to be an extension of the cycle track or bike lanes up past Oxford Street to Somerville Ave. and it needs to intelligently handle predominantly the needs of left turning bicyclists, who are turning towards Porter Square, as well as handling a smaller number of right turn cyclists and you might want to consider putting in a bike box across the right lane there to give some queuing space to cyclists who are preparing to

turn left because right now there is no space for them and people just kind of sit between the lanes and queue up and it can be a hazardous situation because there is no place for cyclists to be there.

Thank you for including the landscaped gardens to protect sight lines. That is very important but I do want to reiterate a request that has been made repeatedly to carry the cycle track at the same level through all of the minor intersections not just across the driveways. It is great that it is going to be continued across the driveways but continuing across the minor intersections would also be very beneficial. I realize there are drainage issues involved, but those can be resolved and it would make the cycle track much more useful.

I have a question about what is happening at Washington Street on the inbound side, where the cycle track ends as it approaches Washington Street. There is a lot going on there. The cycle track is going down to street level and turning into a bike lane. The parking lane that is protecting the cycle track is ending and it is unclear to me, from looking at the plans, what is happening where there is a bus stop right now that is also heavily used as an

informal right turn lane.

SHAWN HOLLAND, MODERATOR: That is in front of Bally's?

DAVID WATSON: Yes, in front of Bally's and also I just want to urge you to design the rest of the project between Washington Street and Inman Square as much as possible so as not to preclude the future extension of the cycle tracks all the way to Inman Square. I know that is not on the table right now but many of us feel that it is extremely likely that it will be possible in the future and to do that with a minimum of reconstruction would be very beneficial. So, please keep that in mind. Thank you.

SHAWN HOLLAND, MODERATOR: Okay, David. I just want to (inaudible 34:08)

DAVID WATSON: Does he want to respond to the question about the Washington Street intersection?

DAVID GIANGRANDE: Do you want me to respond to David's question?

SHAWN HOLLAND, MODERATOR: Yes, if you want to. You can go over it quickly.

DAVID GIANGRANDE: You are exactly right.

In particular, Washington Street, there is a bus stop that we were hoping to move to a far side bus stop because of that. We are looking into some options to better define that space between the seventy-five and a hundred percent design. All three of those issues that you had brought up we are specifically working on now with the exception of the Somerville Ave. location on the other side of the intersection at Somerville Ave.

That, the City had committed to looking at as a separate project because it is beyond the scope of this project. The City has heard that comment and is going to specifically address that.

So, yes, we are working on the location at Washington Street. We had, I had mentioned a little bit of a geometric change that we had to make at the intersection of Washington Street and Beacon Street. That facilitated and starting cutting into the sidewalks and some other things, and it was sort of a trickle down approach that we had to maintain that bus stop in its current location and, hence, we agree, it is being used as a de facto right turn lane. So, we want to look at different options in terms of better defining that and reducing that

conflict point. So --

SHAWN HOLLAND, MODERATOR: This gentleman, then I will get these two next.

NICHOLAS SHECTMAN: I am going to go ahead and use this just so that the transcript people can hear me. I am sure that everybody can hear me anyway, but so this will be in the transcript. Not all cycle tracks are created equal.

UNIDENTIFIED SPEAKER: What is your name, please?

NICHOLAS SHECTMAN: Oh, I'm sorry. My name is Nicholas Shectman, and I live at 75 Lexington Ave. here in Somerville, just up the street.

Not all cycle tracks are created equal. It seems like these are the opening words of every cycle track safety study I read these days and it comes down to cycle tracks are safer when they reenter the roadway before intersection. Cycle tracks are safer when there are few driveways and few side streets. Cycle tracks are safer when there are turn lanes.

I would like to talk about a really great cycle track I rode down this morning. It runs down Beacon Street from Museum to Washington Street. It is the parking lane. It is not an official cycle

track but it might as well be because there are few cars parked on that side of the street, fewer than there are blocking some of the official cycle tracks around here. There is only one right side road between Museum and Washington and it is one way towards Beacon. There are almost no driveways. There is one driveway at the very end next to a bus stop that creates an unofficial right turn lane and also a chance for cyclists to reenter the roadway. This makes the intersection really safe and the City is doing great things with this, preserving that feature, putting in wonderful new features for cycle tracks in the description I am describing and this cycle track is fantastic and, as you mentioned, it could be extended all the way to the Cambridge line. The whole thing would be a cycle track safety model.

I would also like to talk about a terrible cycle track. It is proposed to run down Beacon Street from Oxford to Museum. There are a lot of two way side streets in this section and many driveways. There are no plans for turn lanes. The cycle track does not reenter the roadway at the intersections. Maybe it should instead of having the vegetation.

The parking removal will induce additional

pedestrian street crossings because there is nothing like Line Street or Dimick Street to provide additional same side resident parking like there is in the other section.

When I asked the City about making the side streets one way, they said it would require consent from the abutters. When I asked about putting in more turn lanes, they said it would require a certain quantity of car traffic. This project isn't being driven by cycle track safety. Cycle track is just a convenient excuse to get some federal funding to repave this street. I am all in favor of repaving the street but, if we are not willing to change the project to make it safe, let's put it in places where it will be safe anyway.

SHAWN HOLLAND, MODERATOR: Thank you. Ma'am, and then you next. Ma'am.

SARAH JANSEN: I will try to -- can you hear me or should I use the microphone?

UNIDENTIFIED SPEAKER: No, use the microphone.

SARAH JANSEN: My name is Sarah Jansen. I am a resident and I am a trustee of a sixteen unit association at 255 Beacon Street. I am very much in

favor of this project and thank you, thank you, can't wait for it to start.

My big concern, I have addressed it before, is pedestrian safety. It seems to me that many of the meetings were kind of framed, or addressed the conflict or perceived conflict between riders and drivers, and pedestrians kind of fell in between the cracks, and I am not convinced that pedestrians interests are really, truly implemented in this project as it is, and my concern is about pedestrian crossings across Beacon Street and I make this crossing every day several times, and I fear for my life each time.

I have been brushed by cars. I have been brushed by bicycles. I ran for my life. I had to stop in my tracks. I have to carry my old dog who was to slow to run across the street. It is pretty bad and it is bad because people race down there and also because they race while they are on the phone. I mean, that is just a reality of the resident, and my concern is how can we change that.

There are two solutions. One is, and we are talking with MassDOT here, the State, speed limit, speed limit, speed limit. Slow them down.

Thirty is too fast. We heard about the eight-five percent person killed or something. You know, how many drivers drive at what speed. That has nothing to do with me as a pedestrian risking my life crossing that street. I want these cars to slow down. There is just no alterative to that.

If that is not, for some reason, possible and, if you want to, everything is possible. I am very concerned that, in all the wonderland of what has supposed to have happened for us pedestrians, actually one pedestrian, one pedestrian activated traffic light has been removed actually that is currently there. It is the pedestrian activated traffic light at Museum Street that I use every single day. It is poorly located. Drivers and riders don't see it, even if they wanted to, which I sometimes doubt.

To remove that traffic light means that there will be another race track from Sacramento down to Washington Street and what happens with such a track? Bicyclists and drivers will use that. So, what I want you to consider please, urgently, and I said it last time, as well, is keep that pedestrian activated traffic light there and, if you are

concerned about there are too many pedestrian activated traffic lights, there can't be too many and it works really well if you just hop over to the parallel street, unfortunately on the Cambridge side. On Oxford Street, you have pedestrian activated traffic lights at pretty much every intersection and drivers and riders still get from A to B.

So, it is possible, and pedestrian safety is incredibly important and, please, do not wait until somebody gets hit. I had several near misses. My neighbor is eighty years old and has a disability. She barely dares to cross the street. I was in a wheelchair temporarily five years ago. I wouldn't dare cross the street. When I started walking again, I wouldn't dare cross the street.

Slow down the speed and leave the pedestrian activated traffic light, and make the crosswalks as visible as possible. Gray pavers flush with the pavement do nothing. We can tell you that. Nothing, because people yak on the phone. They speed up. They don't see it. (applause)

SHAWN HOLLAND, MODERATOR: Yes, sir.

ED ABRAMS: Hi. My name is Ed Abrams. I live in Cambridge. The question that I would have

for the designers and the officials is, there were hundreds of people that signed a petition about removing the parking and why was that completely ignored? I just don't understand that. The parking is already extremely tight. I patronize a lot of the businesses along Beacon, like Cafe Rustica and one thing I notice is that, as soon as the construction started, parking became difficult. I talked to the owner. Business is off forty percent. He said forty of his customers come by automobile. If they don't park, they won't get a sandwich and coffee. So, I don't understand why the needs of drivers and businesses were completely ignored in this design. That is the first concern I have. Where are the cars all going to park?

Secondly, I think the cycle track design, which I have reviewed, is extremely dangerous. I think that designers that don't drive, bicycle and walk on Beacon Street understand the dynamics of the way that the traffic, and especially the bikes, interact. Pulling out from Sacramento Street, for example, which I do every day, and take a left turn onto Beacon Street is extremely difficult. What will end up happening is that cars will end up sitting in

the cycle track, trying to take a left turn. What are the bikes going to do?

The other observation I have had is that bicycles travel at greatly varying speeds on Beacon Street and they travel in packs. There is not sufficient room in the bicycle track to accommodate bicycles passing each other. So, they will end up in the street. So, I think the design is deeply flawed and does not reflect the City or State listening to the residents and businesses. So, those are my comments, and I would like that question answered. How come the viewpoints of the residents were ignored in terms of parking?

DAVID GIANGRANDE: No one was ignored in this process. Quite frankly, there was a petition from the business, some of the business owners and also some of the residents. We also got another petition, or I didn't because I am the designer but the City also got another petition really promoting the cycle track and it was also signed by business owners and residents.

So, we were very careful not to ignore anybody in this process. We were very careful to create a Complete Street, and I am a local business

owner, and I have owned a business and my family has owned a business here for some fifty years. So, we take it very serious and we did not ignore anybody in the process.

In terms of the design, I do ride. I do ride my bicycle quite a bit, and we also did a tremendous amount of research and rode a number of cycle tracks, and we have a staff that also rides. So, we are very familiar with the cycle track and how it should be designed and we continue to reach out to both the Somerville bike community in terms of that design, and listen, and received input, and modify our design accordingly.

So, number one, we did not ignore anybody. We took everybody into consideration and, number two, we believe that the cycle track is designed appropriately and is continuing to be designed appropriately.

ED ABRAMS: I am going to go on the record that, if the cycle track is constructed as designed, there will be numerous, especially right hook accidents and left hook accidents, from the side streets and the driveways. Guaranteed, that will happen. I am going to go on the record, that will

happen, and you really have to take that into consideration. Thank you.

SHAWN HOLLAND, MODERATOR: Thank you, sir. Astrid Dodds.

ASTRID DODDS: I know everybody who has been coming to these meetings will be surprised that I am not talking about how I am going to tell that a bicycle is headed my way tonight. I am going to focus real strongly on my disappointment, although the project has listened to numerous things I asked for, like more crosswalks.

UNIDENTIFIED SPEAKER: What is your name, ma'am?

ASTRID DODDS: Oh, sorry. It is Astrid Dodds, A-s-t-r-i-d D-o-d-d-s, 73 Wendell Street, Cambridge. Lots of things I asked for, like more sidewalks, more crosswalks, and other things are reflected in the current plan but I did ask a year and a half ago for one thing but it was, I guess, too far down the list, and I hope it is not too late to reconsider the idea of paving the crosswalks in concrete pavers edged in granite.

Concrete paver sidewalks, crosswalks, are an uneven surface that can turn into a trip hazard

for any walker, particularly when one loosens under the daily impact of eighteen wheeler trucks. Concrete paver sidewalks create distracting vibrations under foot, and under wheels, even rolling a suitcase, never mind wheelchair or walker. Concrete paver crosswalks have low visibility at daytime, at night, and in stormy weather, making it harder for drivers to anticipate pedestrians crossing the road and respond accordingly.

A granite strip edging, a reddish brown concrete paver crosswalk, and I took it from the design, I saw on my computer that it is reddish brown, is so low visibility as to be useless. It is a slip hazard, the granite strip, when it is icy, and when the adjacent asphalt or paver settles, the granite strip turns into a trip hazard. All you have to do is go to Harvard Square or Davis Square and see what I mean.

Concrete paver crosswalks are not the international symbol for pedestrians crossing. Texting and phoning drivers need all the help they can get. This isn't about helping pedestrians. This is helping drivers see what is in front of them on the road, no matter what else is happening, night,

day, storm, whatever. That means that the highly visible and internationally recognized crosswalk markings, such as wide, white reflective, zebra stripes are more effective.

I am glad that the crosswalks are added but the goal of providing more opportunity would be defeated if they are not visible enough that drivers respond to them appropriately.

I noticed that, I am impressed at all the paint that is being planned to delineate the cycle track but I think it is just as important to visibly delineate the crosswalks. The zebra-striped thermoplastic or inlaid reflective tape is supported in this project by the organization Walk Boston, which has members in seventy-five communities in Massachusetts. Cambridge is installing reflective zebra stripes at most crosswalks and, as with other roadway designs, continuity helps all users, and I know cyclists know that, too.

I even found a Federal Highway Administration study called Crosswalk Marking Field Visibility Study in October of 2010 that found that wide white zebra stripe markings were more readily recognized as crosswalks by motor vehicle drivers

than things that cross the road in a transverse way.

The most dramatic example I know of the superiority of the superiority of reflective thermoplastic white stripes is right out here on Elm Street next to the shopping center when, at dusk and in rain and snow, the only way drivers have, I mean these are unsignalized crosswalks, not unlike the ones on Beacon Street, that work quite well in part because of reflective white stripes.

I hope that the project will listen again. It is not too late to do the right thing. Pedestrians need crosswalks but they need crosswalks that minimize the hazards of crossing busy roads that are built for wheel vehicles, motorized and non-motorized alike. I hope you will scrap the invisible non-standard red brown pavers and the slip and trip inducing granite edging in favor of the crosswalk markings that work best for drivers and, therefore, for pedestrians, as well. Thank you very much. (applause)

SHAWN HOLLAND, MODERATOR: Thank you. The gentleman back there.

JASON STOCKMAN: Jason Stockman, 103 Gore Street, East Cambridge. I just want to say I applaud

MassDOT and the City of Somerville. I think this is a very equitable compromise between parking and multi-modal transportation that very much supports MassDOT's stated goal of tripling bike/pedestrian transit mode sharing in coming years. I am very sensitive to the needs of local business owners and the needs of people who need to park but we need to use public space in a way that optimizes the overall public good, and I think using some of it for parking and some of it for bike lanes is actually the most just, equitable and sustainable way to do this.

So, that said, I just wanted to suggest, well, ask one question and make two suggestions. The question is about winter maintenance. I am sorry if I overlooked this in the plans, but wanted to know specifically how we will keep both the pedestrian and the bicycle amenities safe all winter long.

The second question is about why we didn't use raised crosswalks at the intersections with small streets. I think a raised crosswalk at a small street intersection could improve bicycle and pedestrian visibility without impeding traffic flow, and then, the last point is did you consider the use of powdered pavement additives instead of green

paint. I applaud the use of paint to highlight the bike lane but I think, if you used a pavement additive, not only would it last longer, require less maintenance, but it would also improve friction on the surface when it is wet. Thank you very much. (applause)

DAVID GIANGRANDE: Winter maintenance, the City, and we spoke about this at I think every meeting. The City is committed to maintaining the infrastructure in the winter. They are committed to buying a specific piece of equipment to maintain Beacon Street.

Raised crosswalks at the side streets and/or cycle track, we are looking into that right now. There are a couple of issues with respect to drainage that we have to work through. There is also some potential right-of-way issues, as well. Some of the streets are private or may be in Cambridge. So, there are some logistics to work through on that, as well.

The last one is the additive. We have got, that is already part of the program. So, I think that is it.

SARAH JANSEN: Could you respond to the

pedestrian concerns, please?

DAVID GIANGRANDE: I'm sorry.

SARAH JANSEN: Could you respond to the pedestrians?

DAVID GIANGRANDE: To your concerns specifically?

SARAH JANSEN: Mine and to Astrid's.

DAVID GIANGRANDE: Yes, I think I took it as mainly comments, particularly Astrid's, about the zebra striping and versus what she referred to as the red and brown pavers, and granite edging. We will certainly take a look at it and have a discussion whether or not that is a program that we will be willing to go to.

Certainly, defining the pedestrian crossing is a very important safety element. We will be doing that. We will be having thermoplastic on each side of the granite, as well. So, that will better define that space. So, we are taking that comment and we will have some more discussions about it.

SARAH JANSEN: And the traffic light that I asked about at Museum Street?

DAVID GIANGRANDE: Yes, the traffic light at Museum Street was there for a specific reason and

now that it is there, I understand that it is tough for you in particular that lives right there to lose that particular crossing but now you have the opportunity, and what we want to do is that there is an anticipation of pedestrian at an intersection, a full intersection. So, we have now added, there's, back at Sacramento, there is a --

SARAH JANSEN: That is not where we --

DAVID GIANGRANDE: Well, let me just continue. There is one in that direction, and there is also one down at Park Street. Now, from Museum to Park Street, you can now walk on that side down to Park Street. So, we will consider it and we will have discussions with the City, and I have taken notes on it specifically and we are listening, but it is a delicate balancing act in terms of balancing and making sure that the roadway is safe and not overly inconveniencing somebody to walk an extra five hundred yards, or so, down to Park Street or up to Sacramento.

So, we will look at that spacing. We hear you. We put, we had eliminated the crossing at that location. We put the crossing back. We just haven't done a pedestrian actuated signal at that location.

So, we will take it back and we will have a specific discussion on it.

SHAWN HOLLAND, MODERATOR: That gentleman in the back.

UNIDENTIFIED SPEAKER: Hi. Can you hear me? (inaudible 57:31)

SHAWN HOLLAND, MODERATOR: (inaudible 57:36)

SETH GOODMAN: Hi. My name is Seth Goodman. I am a resident of Beacon Street going back to 1997, property owner, three family home right across from the Cafe Rustica. I have seen the dynamics on that street over almost the last twenty years, and I can tell you that when the idea of removing all the parking on there to make room for the bicycle track came up, I was kind of flabbergasted by it.

I ride my bike. I walk down that street. I also drive. I do all three. That street has needed paving now probably for the last thirty years and we have been asking for that for a long time. Back in, I want to say 2000 or 1998, shortly after I brought the property, there was a plan at twenty-five percent completion saying they were going to pave it.

Fifteen years later, we are now here with a new plan that is completely different than what was originally proposed.

I object to the loss of the parking for lots of practical reasons and also for some financial reasons. It does impact the businesses along that street that are important for our neighborhood to thrive. It is also necessary for the people who live there. There is also this hotel going up which, when it was designed, studied parking, a study about parking said there was going to be plenty of parking on Beacon. The very next day there isn't.

So, there is going to be a lot of tightness for parking along that street and it is very easy for people who don't live on Beacon Street to say, sure, that is not my parking spot. I am going to give it away because it is not mine. It is not going to hurt you.

Of course it is beneficial to have better bicycling in the City but I don't feel this is the way to go about it. Had the street been paved properly, things probably would have been just fine. Instead, they let it rot for all these years, and I assume the comments that I sent via email will be

entered into the record?

SHAWN HOLLAND, MODERATOR: Yes.

SETH GOODMAN: I sent comments to Patricia Leavenworth via email yesterday.

SHAWN HOLLAND, MODERATOR: Okay. I haven't seen them. I will check on it.

SETH GOODMAN: Okay. I sent two comments in via email. Will that be --

SHAWN HOLLAND, MODERATOR: Yes. They usually go down to me.

SETH GOODMAN: Alright. All that said, a lot of other people have talked about safety design and all that. The finances haven't really been discussed and I am just curious, as a taxpayer in Somerville, the additional cost associated with the design, the implementation of this cycle track versus what it would have cost, plus the additional parking that they are proposing to add in different places, which won't necessarily benefit everybody along the street at different spots, we haven't discussed what the additional costs of that are. I am curious if the City has those figures and they can share that with everybody. Thank you. (applause)

SHAWN HOLLAND, MODERATOR: Construction

costs, I don't have the specific numbers in front of me. I don't know if Dave or Hayes has that. What's that? Dave, do you have that? I know there is an (HIPP Federal Earmark 1:00:51) which is roughly over three million dollars. There are some new monies in the new Transportation Bond Bill.

(KIM 1:00:58): He specifically asked about the cost of the cycle track, the additional cost of the cycle track. David has that.

SHAWN HOLLAND, MODERATOR: Oh, okay.

DAVID GIANGRANDE: The specific cost of the cycle track is, there is not a lot of cost associated with the cycle track because we are putting granite curb. We are putting in asphalt regardless of whether it is raised to the cycle track elevation or to the -- or at the elevation of the roadway. So, the cost is really minimal. I think that we did, about a month or so ago, we did an estimate and it was under, I think under a hundred and fifty thousand dollars for all of the elements that would be included in the cycle track.

As a matter of fact, it was my -- it is coming back to me now. I believe it was around eighty thousand dollars. So, it was under a hundred

thousand dollars. So, that is essentially the cost differential between doing the cycle track and doing the, just a regular painting type program.

SETH GOODMAN: I'm sorry, just to be clear, your design cost for the additional parking and the maintenance of the bike track with the City's (inaudible 1:02:26)

DAVID GIANGRANDE: Yes, the additional, just again the -- we are not, right now the additional parking element is out for Request For Proposal. We need to see what those proposals come in like, and then we will have a better idea of that.

In terms of design costs, the design costs are not going to fluctuate that much. We needed to go in and do a full depth reconstruction. We needed to redo all the utilities out there. We needed to upgrade the antiquated traffic signal systems. It really is de minimis. There isn't much of a change in terms of design cost.

STEVE (BARISOU 1:03:17): Steve Barisou, 132 Fairweather Street, Cambridge, and I serve on the Board of the Boston Cyclists Union. I want to commend the City of Somerville for this project and for all the progress that was made since the twenty-

five percent. I think this is going to be a really critical element to support the shift toward a greater mode share for biking and pedestrians and it is a critical bike corridor.

I have three points I wanted to bring up. The first one is that bus stop on the inbound side at the Washington Street intersection. I wasn't clear from the presentation earlier whether it still might be possible to locate that to the far side of the intersection. I think that would be a much safer and easier transition if it were still possible.

The second point, I was wondering whether you considered using some permeable pavement around the tree plantings in the furniture zone there, just to give those trees a better chance to thrive. It is going to be a difficult environment for vegetation with all the traffic and all the uses taking place there.

And my third point is I want to suggest that you consider putting in a bike counter that would have a visible display, like a readout, to show the tally of bicycles that are passing by. I know other cities have been using them and it is kind of a, first of all, it could help with just the metrics

of looking at the effect of putting in the cycle track and it could also be something to kind of, a point of interest for the community and to give the cyclists something to, a little bit of extra incentive for what they are doing. So, thank you very much. (applause)

DEBBY GALEF: Hi. My name is Debby Galef. I live in Cambridge just about a block and a half from Beacon Street, and I think this in general a fabulous plan. I really just have two comments about Museum Street and Sacramento Street and the intersection.

SHAWN HOLLAND, MODERATOR: Come up to the mike, please.

DEBBY GALEF: I, too, would like the Museum Street signal to remain. I don't -- I go across Beacon Street to get to the other side, not really to go further down. So, if I had to walk down to Park Street, yes, I could do it but it is not that I really miss the sidewalk. Yes, the sidewalk should be definitely put along the Academy of Arts and Sciences, and people do walk in the street instead of it but really keeping that pedestrian activated light would be great. It doesn't even activate all the

time. So, it is not constant red.

In terms of the Sacramento Street one, I was wondering if there was any way that a car on Sacramento Street could activate it, as well, when it comes up because it is very difficult to see to turn left there. I know that there are going to be, there is a bump-out with plantings that would make it look better but, for whatever reason, there is also an SUV parked there close to the corner and, because presumably the person lives there and it is very difficult to see around there. You take your life into your hands when you turn left and it would be the same for a cyclist. I am talking about a car but then the car doesn't pull out into the cycle track or the crosswalk.

That crosswalk is raised already, and so, I don't know if that crosswalk is going to remain raised. I guess Cambridge raised them when they did the intersection some years ago in order for the cycle track to continue but somehow, if a car pulls up on Sacramento Street facing Beacon Street, wanting to turn right or left, I don't know. I am wondering. Thank you.

SHAWN HOLLAND, MODERATOR: (inaudible

1:06:59)

ALEX EPSTEIN: Alex Epstein, A-l-e-x E-p-s-t-i-n, 278 Beacon Street, resident. I also am the Chair of the Somerville Bicycle Committee but I have lived in Somerville since 2007, and I just wanted to commend the City and MassDOT on proceeding with the project. I have watched it evolve from basically a repaving what was there, which was the same for the last sixty years, to something that is going to be really much better for the community in the twenty-first century.

Now, I bike, walk and take the T, occasionally Zip Car. I do want to ask for, just reiterate a couple of requests people have expressed. First and foremost, raising the crosswalks at the minor intersections will help everyone. Pedestrians will be more visible, cars will slow down around the turns and not attempt to make fast turns and cyclists will be move visible and not have an up and down experience. So, I think that would great.

There are drainage solutions we think could be creative. We recognize, I recognize there is an extra cost for that but I think a lot of that could be saved by listening, as the pedestrian advocates

have mentioned, if there is no engineering reason to have the paver style crosswalk, just paint thermoplastic stripes, continental or zebra, would be less expensive and, hopefully, those savings could pay for much of the raised crosswalks if you can swap that in the budget.

The cycle track is only as good as the weakest link. So, I do urge you to please think about, within the project scope, connecting that western end as far as you can to Somerville Ave. instead of dropping the cycle track, and the probably eight year old kids who will be using it in the future, into a traffic lane with other cars. Please extend that as far as you can over to the bridge to Somerville Avenue as far as you can.

At the east end, if you can do the same with the bus stop, moving it to the far side, instead of Dali, move it to Bergamot, or some other solution to eliminate the right turn conflict.

Finally, as a pedestrian, thank you for adding the extra crosswalks. This community really agreed on that. Thank you for delivering extra crosswalks. Thanks. (applause)

KEN CARLSON: My name is Ken Carlson. I

live at 221 Beacon Street. I am a homeowner and have lived on Beacon Street for five years. I am also the -- I am on the Somerville Bicycle Committee, as well.

I just want to say, again commend, MassDOT and the City of Somerville for their integrity in this process and in bringing this reconstruction process hopefully to initiation in the spring.

I would just like to say a couple of comments. I do, I own a car, I am a pedestrian. I bike. I bike every day on Beacon Street and I understand about the modality of the street. I also frequent all of the businesses on Beacon Street usually by foot or by bicycle, so I am going up and down, visiting all the different businesses and giving them my business on foot or on wheels.

I do want to make two comments that haven't been covered yet about design. One would be the inclusion of bicycle signal heads at the traffic lights. I know that has not been included in the design as of now but I think having a bicycle signal head would be a very important edition to the cyclists, a dedicated arrow for making turns and, in addition, I did notice something that was not in the plan, that was not pointed out as new, and that would

be the inclusion of Copenhagen Lefts.

It looks as if there is green paint marking that would be indicative of a Copenhagen Left. So, if somebody wants to make a left hand turn, they would basically, from Beacon Street, for instance, if they would then be coming to Washington Street, making a left but then doing it in a staged manner. There looked to be markings on the plans for Copenhagen Left. I just want to verify that that is going to be included because it wasn't pointed out specifically. So, anyway, that is all my comments. (applause)

JAMIE MAIER: Hi. I am Jamie Maier. I am the Campaign Coordinator at Liveable Streets Alliance and I am coordinating our Safer Streets Campaign. This is all really important, and I also am a Somerville resident, and I commute down Beacon Street every day and have for the last eight years.

So, first of all as folks have said, I just want to really thank you, thanks to the City, thanks to MassDOT for really making an effort to make a more Complete Street, taking into account everybody using the street and thinking about how to make it safer for all sorts of people. So, that's really fantastic

to see.

I also wanted to reiterate a couple of comments and points that have been made just about how to really take this to the next level and make it a model Complete Street. So, a couple of things that have been mentioned but just to say again, right now on the plans, it looks like there is a sharrow moving toward Somerville Ave. where the cycle track turns into just sort of a sharrow before the plan stops, and so, there is some area. As folks have mentioned, it is very important to keep the cycle track towards, as close to Somerville Ave. as we can get it, and so, currently where the plans have a sharrow, I really encourage you to think about making that into a bike lane or a cycle track.

Secondly, it is great to hear that you are looking into raising the cycle track when it crosses side streets. So, that is just another thing that we do think is going to really improve safety for everyone and gets at some of these points of not allowing cars to just sit in the cycle track.

Again, I wasn't clear, the last gentleman also mentioned this, but is there going to be the ability to make a Copenhagen Left in the as a bike on

Washington Street. Maybe you can answer that, and then, yes, also it was really great to hear that you are looking into moving that bus stop that is in front Dali to the far side at Beacon and Washington. I think that will, again, improve safety for everyone.

So, again, thank you for really considering the needs of all of us. I am really excited about this project and I am really excited to see a safer street on Beacon Street. Thank you. (applause)

MARK CHASE: Good evening. I am Mark Chase, 13 Belmont Street. I use Beacon Street a lot on foot and on bicycle and am really excited about the project. I would like to add, also, I am a lecturer at Tufts University where I teach Transportation Planning and I think, although we don't have many examples of cycle tracks in the United States, when this is built, I think we are going to be very happy we did it, including some of the opponents and, related to the opponents, I really feel like Somerville has to address how they manage parking in the whole city, and just by way of example on Beacon Street, you know, you get your parking permit for thirty-five dollars a year, which is like

about three dollars a month, and that allows you -- that gives you a license to hunt, basically and, if you are on Craig's list, you will see parking spaces for a hundred dollars a month.

Now, I am not saying we should charge a hundred dollars a month for parking but that differential is not a good thing because on-street for most people is more valuable than off-street. So, we either need to limit the number of permits that we issue so that people who get a permit it really means something and they can find a parking space, or we need to charge more and take that money and do things like subsidize low income people so that they can possibly get a parking spot if they really need it, or take transit or other modes of transportation.

So, I do support having the cycle track stay at grade across the minor intersections and I hope the City will look creatively at that, and I think the trees are just amazing and I am really excited about the two hundred new trees. So, thank you all for listening. (applause)

BRIAN (POSTOWAIT): Good evening. My name is Brian Postowait. I live at 36 Linden Avenue. I

am a member of the Bicycle Committee and I am also a co-founder of Boston Area Family Bicycling Group. I would like to commend the City and the designers for a well-designed plan. I am also a Civil Engineer, so I would -- I am looking at both the details and also looking at how this is a street that can be used by people from eight to eighty, not a smaller range.

I have two young kids. I expect them to be bicycling around this City and I think the main problem with this is that it is too small, and it doesn't expand to enough of the City. Hopefully, that will change and will grow specifically with respect to the intersection of Somerville Avenue.

A couple of the details that I am particularly interested in is the two stage or Copenhagen Left at Washington and Park handles one direction on the main street but not the side streets which are almost as traveled.

The second element is pedestrians and crossings. I would reiterate what Astrid said about the crosswalks. Pavers are not visible. Reflectorized pavers are very rare. Zebra stripes work because they strobe at night due to reflections from car headlights. This should be included.

Cambridge has been doing this. Just adjacent, on Oxford Street, they have been ripping up the pavers and putting in zebra stripes for this very reason.

I would also like to recommend that the design team raise the cross, the side street crosswalks as well as the cycle tracks. I think that there is a significant savings of safety down the line. It may cost more now but it will save in the long run.

The last thing I would like to point out is I believe the gentleman from BCU mentioned the porous pavement. The cycle track is an ideal location for porous pavement for three reasons. One, there is not a lot of abuse on it so it will stand up to it. Two, the infiltration will help the street trees along here and, three, porous pavement, ice is significantly, significantly less than impervious pavement. So the maintenance, especially in the winter, will be less severe. Thank you. (applause)

ADAM BOULAND: Thank you. Yes, my name is Adam Bouland and I am a Somerville homeowner, and I bike commute from Porter to Kendall every day. So, first, I am to thank the City for such a foreign thinking design for the cycle track.

I have two questions about the cycle track design. First is what is the obstacle, the design obstacles, to extending the cycle track from the intersection with Oxford Street to the intersection with Somerville Avenue because I think that would really improve the usability of the cycle track and my second question is what design elements are in place to keep cars from blocking the cycle track when they are trying to make a turn onto Beacon Street from a side street?

I know that, in the current design, there are these bump-outs that give improved visibility for the cyclists when cars are making a turn onto the side street but are those bump-outs actually large enough for a car which is pulling out of a side streets just to clear the cycle track before making a, say, right turn onto Beacon. Thank you very much.

DAVID GIANGRANDE: The -- in particular, I think I spoke briefly about the Somerville Ave. and that the end of the project is on the other side of the bridge, which was recently constructed by MassDOT, and there is no specific obstacle and I think the City is committed to extending the project on their own. MassHighway has already funded that

bridge. MassHighway has already funded Somerville Ave. They set their project limits and the City is prepared to take on the additional work, whether it be a bike box or slight modifications to make improvements. So, there is a commitment there.

The other question, it was the obstacles to Somerville Ave., and design elements for the side streets. It is predominantly signing and striping and, as we had mentioned earlier, that we are looking into raising some of the crosswalks and cycle track at some of those side streets wherever feasible. So, we are going through that study and, as we move on to the next part of our design, we will have evaluated that.

There were a couple of other comments, as well, since I am up here. The two stage left, we have included the two stage lefts or two phase left, the Copenhagen left turn. We think it is a, when we talk about, and I think Mr. Postowait got up and spoke about eight to eighty, age group eight to eighty. I think it is important to make that, those left turns as safe as possible. So, we have been looking at that in a little bit more depth and we have added those to the, at least conceptually

tonight, added those to the plans, as well.

There are some discussions obviously that have to take place relative to the crosswalk. Nothing is done in a vacuum. We will have a team discussion on that. So, I think those were the major ones anyway.

IAN WOLOSCHIM: Hi. My name is Ian Woloschim, W-o-l-o-s-c-h-i-m. I am a owner on 3 Elliot Street, which is adjacent Park and Beacon. I bike every day, rain, shine, snow, down to Kendall Square to work. So, I am thrilled with this. It is going to make my commute a lot safer, I hope, but I had a couple of quick questions.

One, there was a mention of bicycle activated signals. I think that is referring to just regular traffic lights. I was curious if those, if the bicycle activation is going to be in the bike lane or in the travel lane. I see a lot of areas where that is, you know, the travel lane, in the center of lane. Park Street and Somerville Ave. is a great example of the signal that is in the middle of the lane. So, if I want to make a left turn I have to move to the middle of the lane. If there is no traffic, that is great. If there is a lot of

traffic, or if there is a line of parked cars between the bike lane and the vehicle travel lane, that would be kind of tough. So, I just want to know where those are going to be if they are included.

And second, I don't know if this has been discussed yet, but I am more concerned during construction, I understand that street closures may be needed but I want to point to the current construction right now for the utilities. They are not trying to put a bike lane in. It is just one lane for cars and bikes. It is signed. It seems to be working pretty well. It seems to be reasonably safe. If they have to close lanes, I would prefer that they try to keep bicycles lanes in two directions, even if there is only traffic in the peak direction only because there is not a very good side street between Washington and the Cambridge City line to try and get around a different way. Bicycles will be doing twice the distance. If you are bicycling, it is a lot more work to do that distance I understand. So, I think it means for everyone but I just want to make sure that that is at least considered if there are any street closures. Thank you.

DANIEL SHUGRUE: My name is Daniel Shugrue. I am a Somerville resident for fifteen years and homeowner for the past ten years. I am a bicyclist and a motorist and I just want to applaud the City for the plan. I am very, very happy to be able to bike more safely and, maybe more importantly, I am happy that my two sons, who are age five and thirteen, I will finally feel okay having them ride on their own on Beacon Street, and I can almost assure -- I can also assure you that we will be using the businesses on Beacon Street more often as a result of this, Cafe Rustica and Pho, for sure. Thank you. (applause)

ARIEL HOROWITZ: My name is Ariel Horowitz. I live at 168 Albion Street. I am a member of the Somerville Bicycle Committee and also a graduate student at Tufts. I also wanted to echo the thanks to the City for being responsive and sort of my overall level of being impressed with this design. I wanted to echo the comments that people had made about the importance of having the level side streets and elements like the Copenhagen left and hopefully bike specific signaling.

I just overall wanted to say that hopefully

Beacon Street will be able to be looked at as a keystone of a much more comprehensive bicycle/pedestrian network for the City going forward and not sort of something that was like a little bit too soon. I think it is really great to see these forward-looking design elements being included, and I just hope that that continues as the project comes to completion. (applause)

TOM LAMAR: Tom Lamar, 66 Adams Street. I wanted to echo what others have said about the importance of raised crosswalks and cycle tracks at the side streets. I regularly use the existing cycle track at Concord Ave. in Cambridge and I think it is an excellent example of what not to do for the cycle track. You can see cars making very sudden turns there because the cycle track there is not continued through intersections. There is no, there are barely even any markings there. So, I think that the current design is already much better than the Concord Ave. cycle track but I would like to encourage MassDOT to continue to look in that direction and continue to improve the design.

Second, it wasn't clear to me what the pedestrian phasing will be at the signals. I

couldn't tell if it would be concurrent with parallel traffic or exclusive. I would like to encourage the City and MassDOT to use concurrent pedestrian phases which is much, or allows pedestrians to cross much more easily, results in less wasted time and also I think will make it less likely that there will be a right hook. If cars already expect pedestrians to be crossing at the same time, I think they will be more aware of cyclists travelling parallel in that direction, as well.

So, I would like to encourage the City to do concurrent pedestrian crosswalks with leading pedestrian and bike intervals if they are not already doing that. Thank you. (applause)

CECELIA COBB: Hello. My name is Cecelia Cobb. That's C-o-b-b. I live at 35 Central Street in Somerville. I live about two or three blocks from the planned reconstruction of Beacon Street. I commute downtown every day. I also work on Beacon Street at bike shop that is centered around families and we are very, very excited that our customers are going to be able to use this facility and that we are going to be able to allow them to test some of our bikes, with their children, on this street because,

right now, we send them in the opposite direction.

I had some personal comments that I wanted to make about the proposed plans. The first thing I wanted to agree with a number of other speakers that have mentioned keeping the cycle track and keeping pedestrian crossings at grade going through side street intersections. I think that, at the intersection of Washington and Kirkland, there still has some work to be done, particularly where the bus stop is, and hopefully being able to move that to the eastbound side of that intersection.

I also would like to hopefully see some signage to make sure that the bike lane going down to the street is not blocked by cars getting into the right hand lane because I can see that being a very large issue. There is currently no signage in the plan to say either yield to bicyclists or please do not block the bike lane. The other thing I wanted to mention at that intersection, actually that's good.

The other thing I wanted to mention is that at, on the cycle track where there is a shorter side, there is only six feet of space, which is not really enough for two cyclists to safely pass one another. So, I do see issues where cyclists will have to jump

down into the street and into the moving vehicle traffic in order to pass someone, which I have to say happens a lot on this road. So, I would like to potentially see the motor lanes being shortened, being, have their width cut to ten and a half feet in each direction. That is still plenty of space to travel at thirty miles an hour, as is the speed limit on this road, and that would allow an extra foot to go into the cycle track and cyclists could then stay in the cycle track passing people. Thank you. (applause)

ARI OFSEVIT: I will just spell my name. First name, A-r-i. Last name, O-f as in fox trot-s as in Sarah-e-v as in Victor-i-t. I am actually a Cambridge resident but I am really excited to see this happen in Somerville if for no other reason than, when this is built in Somerville, I think we are going to look from the Cambridge point of view on the Bicycle Committee there and say, well, Somerville has a great facility on Beacon Street and we need a matching facility on Hampshire. So, I think Somerville might shame us into a better facility.

As far as the raised crossings go for pedestrians, I think you can really look at an

illustrative example of what we have done and are doing just across the border. The Concord Avenue cycle track is one of the earlier designs and there are certainly flaws there. If you look at the Western Avenue cycle track, we built about a two block portions that does have those raised crossings and that is going to be in the rest of the plan, and I think it is going to be a much safer use of the streetscape so that, when cars are coming, they will have to climb a small grade, they will have a lot more visual and another cues that there are other users there. So, I would certainly suggest that be put into these plans, as well, to make it safer for really all users. That's about it. Thank you.

SHAWN HOLLAND, MODERATOR: Thank you.

SARAH JANSEN: Could MassDOT please still address the question of the speed limit? It was a major issue on the last meeting on May 13 and I asked about it again tonight.

SHAWN HOLLAND, MODERATOR: Yes. I think Alderman Heuston answered that last meeting. My understanding, speed limits are set by state law in residential areas and the default speed limit is thirty miles per hour. Right now, I know there is a

movement afoot in Massachusetts that is being led by the new Mayor Walsh, Marty Walsh, to change that and allow cities and towns to reduce the speed limits down to twenty-five and, in some instances, to twenty. I know, in Europe, that call it Twenty is Plenty.

So, the movement to reduce speed limits in urban areas is strong in Europe and it is moving now to the U.S. and now I see a lot of cities and towns are trying to do that. Again, in Massachusetts, state law sets that at thirty miles per hour. So, I know there is some effort, I think Alderman Heuston said she filed a petition but was unsuccessful but I think now there may be a change in that thinking and I know Mayor Walsh, Marty Walsh is going to be pushing legislation to change that. So, there may be opportunity to change speed limits on some roadways.

The only thing I would caution about Beacon Street is that is part of the National Highway System, which means it is a roadway of regional significance. So, that would maybe required for the Highway Administration to approve that, as well as the State but there is some future to maybe reduce

that speed limit but right now we just can't really change that, and I know there is an enforcement issue. It is thirty miles an hour but they speed much more than that. Okay? Yes, sir.

JOSH GOLDMAN: Josh Goldman. I live on Ossipee Road in Somerville. I have been there since '79 and I bike every day and lots of people pass me. So, I understand that.

I think, addressing the concerns of the pedestrians, I think Cambridge just had, for Bike Month, had a lot of traffic enforcement. They were giving tickets to bike, bicyclists, which I am sure will be real popular with us but I think that, when we get this track there, we want to make sure everyone is following the laws, including the bicyclists and that is not part of the plan but I think having Somerville put an effort in that to get bicyclists and motorists really aware of the law and to have police presence there will help solve that problem.

DAVID GRUCZA: My name is David Grucza, G-r-u-c-z-a. I live at 154 Cedar Street. I just have a question that I was told wasn't talked about yet, which is, are there provisions for bike parking in

this plan because that is one thing that would help businesses a lot. I mean, I know it is much easier (inaudible 1:36:38) solution bike parking. When you get up into the Square and bikes are chained to everything (inaudible 1:36:44)

SHAWN HOLLAND, MODERATOR: Are there bike racks in that area?

UNIDENTIFIED SPEAKER: (inaudible 1:36:48)

DAVID GIANGRANDE: Right now, we are proposing bike racks throughout the entire route, the entire linear project and I believe, on the landscape plan, they clustered some in specific areas. I think you are referring to something a little bit more substantial than that. Are you not?

DAVID GRUCZA: I am just saying is that there are sufficient amounts of bike parking.

DAVID GIANGRANDE: Yes. I think what we have had to do is it being a linear project and not like a nodal type project, we done our best to allocate bike racks throughout the entire project and also try to intensify those at the nodes of activity. So, yes, we have tried to take that into consideration.

I think that, when you do a project like

this, you start off with some ideas, and then you hope that there will be some smaller satellite projects to make it even a little bit better and sort of contour it to the uses, etc. So, as land uses might change or anything like that, then there will be opportunities to maybe intensify this a little bit, too, in terms of the bike parking.

DAVID GRUCZA: (inaudible 1:38:06) You have a hard job.

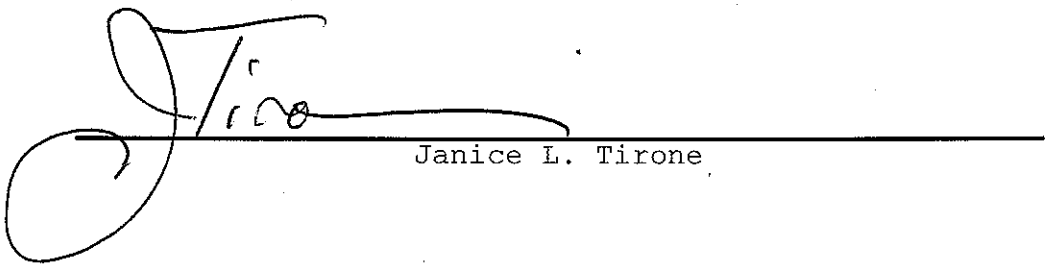
SHAWN HOLLAND, MODERATOR: Any other questions? (inaudible 1:38:18) Well, if you don't have any questions, there is a little handout near the back of the little comment sheet. So, if you think of something when you get home tonight that you want to ask the City or MassDOT, just fill it out and send it to the address on that sheet there and we will get back to you, and thank you for coming out. There were some great questions and comments and, as I say, we will take those into serious consideration and thank you again.

UNIDENTIFIED SPEAKER: Thank you.

End of Public Information Meeting +++

C E R T I F I C A T E

I, Janice L. Tirone, do hereby certify that the foregoing record is a true and accurate transcription of the proceedings in the above-captioned matter to the best of skill and ability.



Janice L. Tirone

**ALL NAMES NOT PROVIDED WERE SPELLED PHONETICALLY TO THE BEST OF MY ABILITY

ATM, Inc
339-674-9100

Design Public Information Meeting

June 3, 2014

At John F. Kennedy Elementary School
Somerville, MA

At 6:30 PM

FOR THE PROPOSED

Beacon Street Project
Project File No 607209
Project Management Section

IN THE CITY OF SOMERVILLE, MASSACHUSETTS

COMMONWEALTH OF MASSACHUSETTS
MASSACHUSETTS DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION

FRANCIS A. DEPAOLA, P.E.
HIGHWAY ADMINISTRATOR

PATRICIA A. LEAVENWORTH, P.E.
CHIEF ENGINEER

THE COMMONWEALTH OF MASSACHUSETTS
MASSACHUSETTS DEPARTMENT OF TRANSPORTATION – HIGHWAY DIVISION
NOTICE OF A PUBLIC INFORMATION MEETING
Project File No 607209

A Public Informational Meeting will be held by MassDOT and the City of Somerville to discuss the 75% design plans for the proposed Beacon Street Reconstruction and Improvement project in the City of Somerville, MA.

WHERE: John F. Kennedy Elementary School
5 Cherry Street
Somerville, MA 02144
WHEN: Tuesday, June 3, 2014 at 6:30 PM
PURPOSE: The purpose of this meeting is to provide the public with the opportunity to become fully acquainted with the latest design plans that the City of Somerville is proposing for the Beacon Street project. The project is now at 75% design. All views and comments made at the meeting will be reviewed and considered to the maximum extent possible.

PROPOSAL: The proposed project consists of roadway reconstruction, curbing, ADA compliant sidewalks and ramps, drainage, traffic and pedestrian signals improvements, crosswalks, street lighting, street trees, and roadway safety and operational improvements. Bicycle accommodations will be provided by use of designated bicycle lanes and cycle tracks. Removal of on-street parking is proposed on the north side of Beacon Street from Oxford to Museum and from Park to Washington Streets.

A secure right-of-way is necessary for this project. Acquisitions in fee and permanent or temporary easements may be required. The City of Somerville is responsible for acquiring all needed rights in private or public lands. MassDOT's policy concerning land acquisitions will be discussed at this hearing.

Written views received by MassDOT subsequent to the date of this notice and up to five (5) days prior to the date of the meeting shall be displayed for public inspection and copying at the time and date listed above. Plans will be on display at 6:00 PM, one-half hour before the meeting begins, with an engineer in attendance to answer questions regarding this project. A project handout will be made available on the MassDOT website listed below.

Written statements and other exhibits in place of, or in addition to, oral statements made at the Public Meeting regarding the proposed undertaking are to be submitted to Patricia Leavenworth, P.E., Chief Engineer, MassDOT, 10 Park Plaza, Boston, MA 02116, Attention: Project Management Section, Project File No. 607209. Such submissions will also be accepted at the meeting. Mailed statements and exhibits intended for inclusion in the public hearing transcript must be postmarked within ten (10) business days of this Public Hearing. Project inquiries may be emailed to dot.feedback.highway@state.ma.us

This location is accessible to people with disabilities. MassDOT provides reasonable accommodations and/or language assistance free of charge upon request (including but not limited to interpreters in American Sign Language and languages other than English, open or closed captioning for videos, assistive listening devices and alternate material formats, such as audio tapes, Braille and large print), as available. For accommodation or language assistance, please contact MassDOT's Chief Diversity and Civil Rights Officer by phone (857-368-8580), fax (857-368-0602), TTD/TTY (857-368-0603) or by email (MassDOT.CivilRights@dot.state.ma.us). Requests should be made as soon as possible prior to the meeting, and for more difficult to arrange services including sign-language, CART or language translation or interpretation, requests should be made at least ten (10) business days before the meeting. In case of inclement weather, public meeting cancellation announcements will be posted on the internet at **http://www.massdot.state.ma.us/Highway/**

FRANCIS A. DEPAOLA, P.E.
HIGHWAY ADMINISTRATOR

PATRICIA A LEAVENWORTH, P.E.
CHIEF ENGINEER

MassDOT
Massachusetts Department of Transportation
Highway Division

Dear Concerned Citizen:

The Massachusetts Department of Transportation (MassDOT) is committed to building and maintaining a transportation infrastructure that is both safe and efficient for all who use our roadways, bridges, bicycle facilities and pedestrian paths, while maintaining the integrity of the environment.

As part of the design process for this project, we are conducting this public hearing to explain the proposed improvements, listen to your comments and answer any questions you may have. At the conclusion of the hearing, MassDOT will review all of your comments and, where feasible, incorporate them into the design of the project.

We recognize that road and bridge construction can create inconveniences for the public. MassDOT places a great deal of emphasis on minimizing the temporary disruptive effects of construction.

MassDOT encourages input from local communities and values your opinions. Please be assured that we will undertake no project without addressing the concerns of the community.

Sincerely,

F.C. DePaola

Frank DePaola
Administrator, Highway Division

Ten Park Plaza, Suite 4160, Boston, MA 02116
Tel: 617-973-7000, TDD: 617-973-7306
www.mass.gov/massdot

WHAT IS A PUBLIC INFORMATIONAL MEETING?

WHY A PUBLIC MEETING

To provide an assured method whereby the Commonwealth of Massachusetts can furnish to the public information concerning the State's highway construction proposals, and to afford every interested resident of the area an opportunity to be heard on any proposed project. At the same time, the hearings afford the Commonwealth an additional opportunity to receive information from local sources which would be of value to the State in making its final decisions to what design should be advanced for development.

WHY NOT A VOTE ON HIGHWAY PLANS?

The meetings are not intended to be a popular referendum for the purpose of determining the nature of a proposed improvement by a majority of those present. They do not relieve the duly constituted officials of a State highway department of the necessity for making decisions in State highway matters for which they are charged with full responsibility.

WHAT DOES A PUBLIC MEETING ACCOMPLISH?

It is designed to ensure the opportunity for, or the availability of, a forum to provide factual information which is pertinent to the determination of the final alternative considered by the state to best serve the public interest, and on which improvement projects are proposed to be undertaken.

It is important that the people of the area express their views in regard to the proposal being presented, so that views can be properly recorded in the minutes of the meeting. These minutes will be carefully studied and taken into consideration in the determination of the final design.

RIGHT OF WAY ISSUES

A secure right of way is necessary for this project. Temporary construction easements and permanent sidewalk easements may be required. Your municipality is responsible for acquiring all necessary rights in private or public lands. If your property is affected, your rights are fully protected under law.

1. REASON FOR PROJECT

   The completion of this project will serve local needs. The proposed enhancement will also be in the interest of others in the greater community, and provide for the public good.

2. WHO CONTACTS ME?

   Representatives of the municipality have already contacted or will contact you. They will explain the procedures used in acquiring any necessary rights in land.

3. WHAT ABOUT DONATIONS? WHAT IS A RIGHT OF ENTRY?

   City officials will often seek donations, of parcels, where permanent rights are required. This procedure will minimize the acquisition cost for your community.

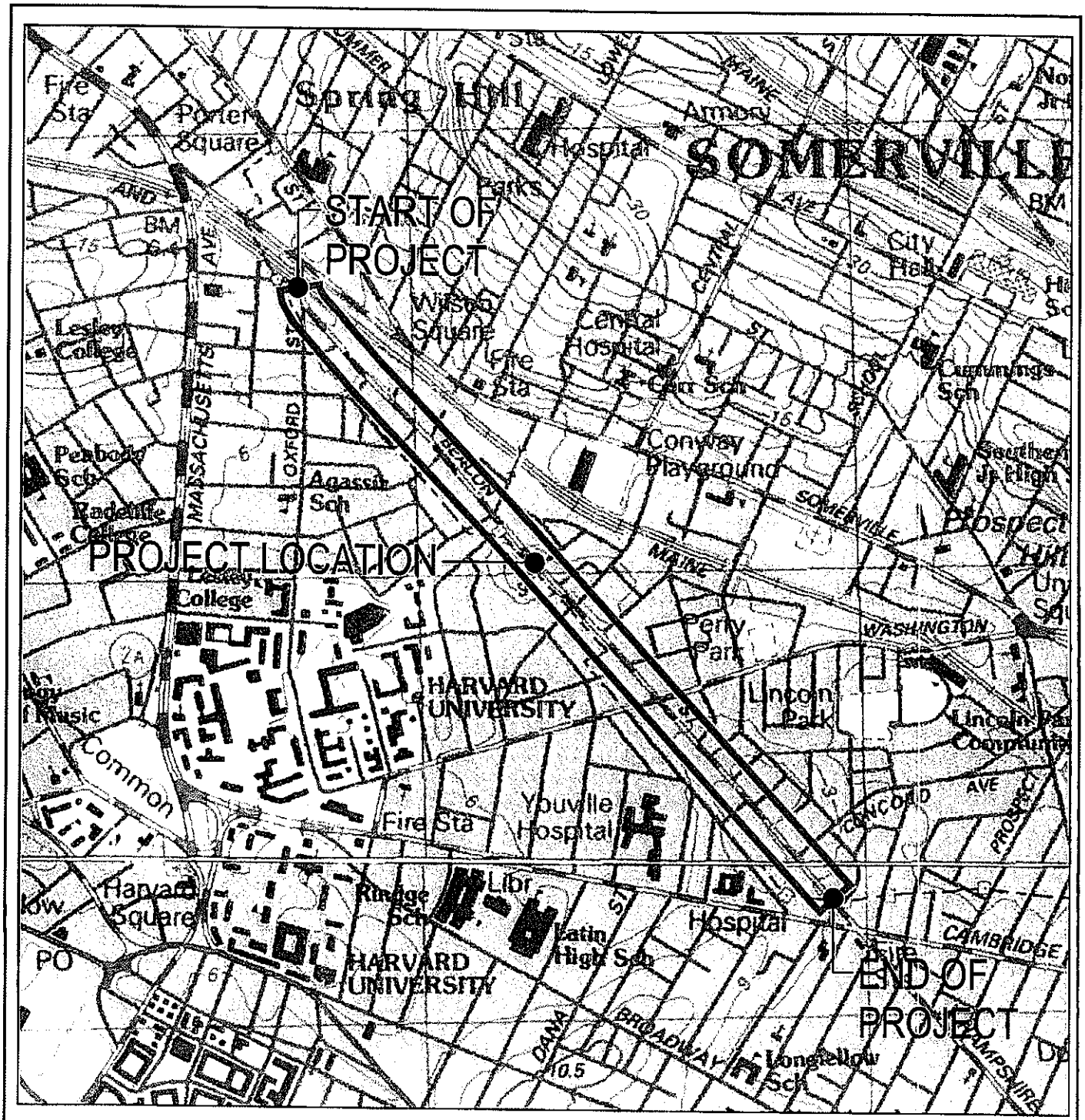
   A Right of Entry is a document that is signed by the owner. It allows the Contractor to perform certain types of work on the owner's land. The work is usually minor in nature and frequently consists of loaming/seeding behind sidewalks, new driveway apron work, grading/sloping, and wetland protection, etc. The rights granted are temporary in nature.

4. WHAT IS A FAIR PRICE FOR THE ACQUIRED PARCELS?

   In the event that donations are not considered, or completed, every effort will be made to ensure that an equitable value is awarded. Municipal and/or outside appraisers will complete an appraisal. Consideration is given to the type of rights needed, whether in fee, permanent or temporary easements. The appraisal will be the basis for arriving at a fair price (for damages that result).

5. MUST I ACCEPT THE MUNICIPALITY OFFER?

   No, if the owner feels that the offer is not fair the owner may petition the courts. This action does not stop or delay the acquisition. The action must occur within 3 years. The owner(s) may be paid pro tanto (for the time being). The pro tanto payment will not prejudice the court's final decision.



SCALE: 1" = 1000'

Design Consultants, Inc.
CIVIL ENGINEERS and LAND SURVEYORS
120 Middlesex Avenue, Suite 20
Somerville, MA 02145
617-776-3350p 617-776-7710f

BEACON STREET ROADWAY AND STREETSCAPE IMPROVEMENTS, SOMERVILLE, MA

LOCUS MAP

2012-027

INSERT DETAIL OF PROPOSED IMPROVEMENTS HERE

Project Location

Beacon Street is an urban arterial that runs southeast from Somerville Avenue to the Cambridge city line. The Beacon Street Roadway and Streetscape Improvements Project in Somerville will reconstruct 1.1 miles of roadway, from Oxford Street to the Somerville/Cambridge city line.

Project Purpose and Proposed Improvements

Existing Conditions

The existing roadway width is approximately 44 feet within a 66 foot City layout. Existing sidewalks are approximately 10 feet wide. The posted speed limit is 30 mph along the corridor. Abutting land use is a mix of residential and commercial with parking provided along both sides throughout most of the project area.

The roadway pavement is in poor condition. From Oxford Street in the northwest to the city line in the southeast the pavement is a series of patches, potholes, failing trench repairs, lateral and longitudinal cracks, shoving, heaving and rutting.

The sidewalks are substantial in width, however are in poor condition and have non-compliant cross slopes in many cases. While there are sections of new sidewalk, much of the sidewalk is very old with cracks, settlement and heaved sections. Additionally throughout the project there are frequent, poorly constructed and failing bituminous concrete pavement patches.

The pedestrian ramps throughout the corridor are in poor condition and not ADA compliant. In numerous locations pedestrian ramps do not exist at all.

Utility poles exist on both sides of the street with clearances generally less than 18 inches from face of curb, most utility poles are located at or slightly behind the back of curb.

Beacon Street has been in operation as currently constituted for over one-hundred and fifty years. As such the profile and alignment is fixed by the development that occurred during that time. Fortunately, the arterial is in an area of gentle topography, hence vertical and horizontal alignment is acceptable. The vertical alignment ranges from ¾% to 2%. The horizontal alignment for all intent and purpose is straight with several minor angle points.

With regard to traffic, Beacon Street operates as one travel lane in each direction with areas of metered and 2 hour parking permitted along both sides. A variable substandard 4 foot-wide bicycle lane is provided along both sides of the Beacon Street. Traffic signalization is provided at several locations along the corridor to control vehicular traffic and/or to provide for pedestrian crossings. The intersections of Beacon Street/Washington Street and Beacon Street/Park Street/Scott Street are fully signalized. The intersections of Buckingham Street/Cooney Street and Museum Street/Kent Street provide pedestrian actuated traffic signals. There is a lack of turn lanes or protected movements at Washington Street and signal equipment is antiquated, resulting in significant back-ups and delays. Traffic and pedestrian signal equipment do not conform to current MUTCD and ADA standards.

The existing typical section for Beacon Street provides for one travel lane, a bicycle lane and parking (about 22 feet) in each direction. Field observations and intersection count data indicate that pedestrian and bicycle activity is high.

Proposed Improvements

The existing sidewalks will be removed and replaced with new concrete sidewalks. The existing roadway will be replaced via a combination of new full depth pavement and milling and overlay. All traffic signals (vehicular and pedestrian) will be replaced with new MUTCD compliant signals. All curbing will be replaced with new granite curbing. New street furniture, including benches, trash cans and bicycle racks will be installed. New street trees will replace the existing trees in poor condition. New crosswalks will be installed with new ADA compliant wheelchair ramps at all street crossings.

The proposed typical sections within the available 66 foot-wide road right of way have been developed to provide an improved level of safety and mobility for bicycles while maintaining acceptable levels of service for all other travel modes, including on-street parking. These typical sections are shown and described as follows:

Oxford Street to Museum Street and Park Street/Scott Streets to Washington Street:

A 6 foot-wide cycle track with 1v:6h mountable curbing is proposed on the northeast side of the roadway and a 9 foot wide cycle track is proposed on the southwest side of the roadway, each adjacent to a 10 foot-wide concrete sidewalk. On-street parking (7 feet in width) will be maintained on the southwest side only. This results in an 11 foot-wide northbound travel lane and a 13 foot-wide southbound travel lane.

Museum Street to Park/Scott Streets:

A 5 foot-wide bike lane is proposed adjacent to an 11 foot-wide travel lane in both directions. The existing 10 foot sidewalk and on-street parking (7 feet in width) will be maintained on the northeast side. A new 5 foot-wide sidewalk will be added on the southwest side while maintaining the existing adjacent wall structure at the back of sidewalk.

Washington Street to the Cambridge City Line:

A 5 foot-wide bike lane is proposed adjacent to an 11 foot-wide travel lane in both directions. The existing 10 foot-wide sidewalk and on-street parking (7 feet in width) will be maintained on both sides of the street.

Changes Since 25% Design

Notable updates since the 25% Design Public Hearing include: minor baseline geometric revisions, the mountable curb between the 6' wide cycle track and the travel lane was changed from a 1:4 curb to a 1:6 mountable curb, the sidewalk along the wall at Harvard was increased from 5' to 5.5' at its narrowest point, Application for Experimentation for Bike Boxes (at Park Street and Washington Street) was applied for and approved by FHWA, the bicycle facilities (bike lanes and cycle tracks) will have green pavement throughout the project, the crosswalk at Sacramento will remain in the same location it currently is, the crosswalk at Museum Street will remain, a new crosswalk has been added at Oxford Street and also between Greenwood Terrace and Prentiss Street, the bus stops have been coordinated with the MBTA.

Right of Way Needed

Currently, the sidewalks along Beacon Street extend to the face of building along the stretch of roadway. Since the existing, non-compliant sidewalks will be replaced with new compliant sidewalks, minor temporary construction easements and two permanent sidewalk easements will

be required along a significant portion of Beacon Street. It is anticipated that one-hundred and fourteen (114) temporary construction easements will be required to complete the proposed improvements. Two permanent sidewalk easements will be required for this project.

Construction Traffic Management

All roadways in the project area will remain open to residents during construction. Occasional short term traffic disruptions may occur, but every effort will be made to minimize inconvenience.

It is anticipated that construction along the roadway will occur in three main stages: Washington Street to Concord Street, Park Street to Washington Street and Oxford Street to Washington Street. Pedestrian and vehicular access to abutting properties will be maintained throughout construction. Bicycles will be detoured around each stage of work.

Project Schedule

The project is currently at the 100% Design. The project is scheduled to be advertised in late 2014. It is anticipated that the contract will be awarded over the winter of 2014, with construction commencing in the Spring of 2015 and competing in the Fall of 2016.

Cost

The preliminary cost estimate for the project includes $7.5M in hard costs, with a total construction cost of $9.5M.

Other

Utility improvements focusing on water distribution and sanitary sewer improvements are currently being undertaken by the City in a separate project. These utility improvements will be completed prior to the start of the streetscape improvement project.

THE COMMONWEALTH OF MASSACHUSETTS
MASSACHUSETTS DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION

Federal Aid Project
Somerville, MA

Beacon Street Project
Project File No 607209

This sheet is provided for your comments. Your input is solicited and appreciated. Please return your sheet, with comments, to a staff member at the meeting, or mail to:

Patricia A. Leavenworth, P.E., Chief Engineer
MassDOT – Highway Division
10 Park Plaza, Boston, MA 02116-3973
Attn: Project Management Section

The final date for receipt of written statements and exhibits for inclusion into the official meeting transcript will be ten (10) days after the Public Meeting.

PLEASE TYPE OR PRINT LEGIBLY.

Name: _____ Title: _____

Organization: _____

Address: _____

Please Fold and Tape

Please Place Appropriate Postage Here

Patricia A. Leavenworth, P.E.
Chief Engineer
MassDOT – Highway Division
10 Park Plaza
Boston, MA 02116-3973

RE: Public Informational Meeting
Beacon Street Project
Somerville, MA
Project File No. 607209
Project Management Section

MassDOT
Massachusetts Department of Transportation
Highway Division

PUBLIC INFORMATIONAL MEETING SIGN-IN SHEET

Project:	*Somerville – Beacon Street*	**Meeting Date: June 3, 2014**	
Facilitator:	MASSDOT – HIGHWAY DIVISION	**Place/ Room:**	

	Name (Please Print)	Affiliation	Phone
1	Shawn Holland	Highway Division – Project Management	(857) 368-9345
2	CECELIA COBB		617 599 2650
3	Erik Wile	Road user	617 216 6172
4	David Watson	MassBike	617-542-2453
5	Adam Purpuro		617-513-5011
6	STEVE SULLIVAN	stevesullivan12@yahoo.com	617-852-5019
7	Arnd Horowitz	Somerville Bicycle Com.	412-508-6811
8	Enid Kumin	" " "	617 625 1865
9	Ian Woloschin	SBC + Owner/Resident	401-324-9426
10	DAVID OLMSTED	RESIDENT/BEACONS.	585-317-5449
11	Astrid Dodds	Wendell St, Camb, resident	617-354-6553
12	Jamie Maier	Livable Streets	617.602.5262
13	Jonathan Greiner	Boston Cyclists Union	781 738 3964
14	Ken Carlson	Somerville resident	617 909 3150
15	SARAH JANSEN	TRUSTEE, 255 BEACON ST ASSOC.	617 492-2280
16	Tom Laman	resident	781 507 4825
17	Debby Galef	resident	617 491-1024
18	Harrison Greene	Somerville Resident	508-320-4014

MassDOT
Massachusetts Department of Transportation
Highway Division

PUBLIC INFORMATIONAL MEETING SIGN-IN SHEET

Project:	*Somerville – Beacon Street*	**Meeting Date: June 3, 2014**	
Facilitator:	MASSDOT – HIGHWAY DIVISION	**Place/ Room:**	

	Name (Please Print)	Affiliation	Phone
19	Liz Ferme	Somerville Resident	775-240-0694
20	Ed Abrams	Cambridge Resident	
21	Daniel Shugrue	Somerville Resident	781 698 9947
22	Mike Tremblay	Somerville Resident/Trans Eng.	508-451-0208
23	ALEX ANDERSON	SOMERVILLE RESIDENT	732-373-1040
24	WINFIELD / DEBORAH GREENE	SOMERVILLE RESIDENT	617-441-8524
25	Brett Holladay	Somerville	
26	Joshua Goldman	Somerville	6176250088
27	Mark Schindler	Cambridge	6175472247
28	Angela Shen-Hsieh	"	"
29	KIEFER HICKS	Somerville	(617) 987-5024
30	Nicholas Shectman	Somerville	617 543 9265
31	MARK CHASE	Somerville / Lumbie Street	617 290 3878
32	JOEL BENNETT	SOM. RESIDENT	857-544-0710
33	Alan Moore	Som. Com Path	617-623-6106
34	Rebecca Hansen	Northeastern	
35	Andrea Walczak	Northeastern	
36	Vasiliki Yannakopoulos	305-307 Beacon St.	

MassDOT
Massachusetts Department of Transportation
Highway Division

PUBLIC INFORMATIONAL MEETING SIGN-IN SHEET

Project:	*Somerville – Beacon Street*	**Meeting Date: June 3, 2014**	
Facilitator:	MASSDOT – HIGHWAY DIVISION	**Place/ Room:**	

	Name (Please Print)	Affiliation	Phone
37	Josephine MAzullo	Somerville, MA	
38	Morgan O'Grady	Somerville, MA	703-973-2585
39	Karmen Cheung	Somerville, MA	917 609 2687
40	JASON STOCKMANN	CAMBRIDGE, MA	315 450 3309
41	Amanda Sindel-Keswick	Somerville resident	207-522-1368
42	Hannah Kates	Somerville res	941 587 3477
43	Seth Goodman	Somerville property owner	6178720778
44	Wig Zamore	STEP	617-625-5630 wigzamore@gmail.com
45	Alex Epstein	Somerville Bicycle Comm.	alexepstein@gmail.
46	Joseph Kay	Somerville Resident	617 492-4822
47	BOB NESSON	Somerville resident, MASSBIKE Member	617 869-8267
48	Phil McKenna	Cambridge Resident Livable Streets Member	617.642.0305
49	DONNY DAILEY	MASS DOT Goverment AFFAIRS	
50	Andrew Kopacz	Union Sq	andrewKopacz@gmail.com
51	Alison Hoyt	Somerville, MA MassBike member	ahoyt@mit.edu

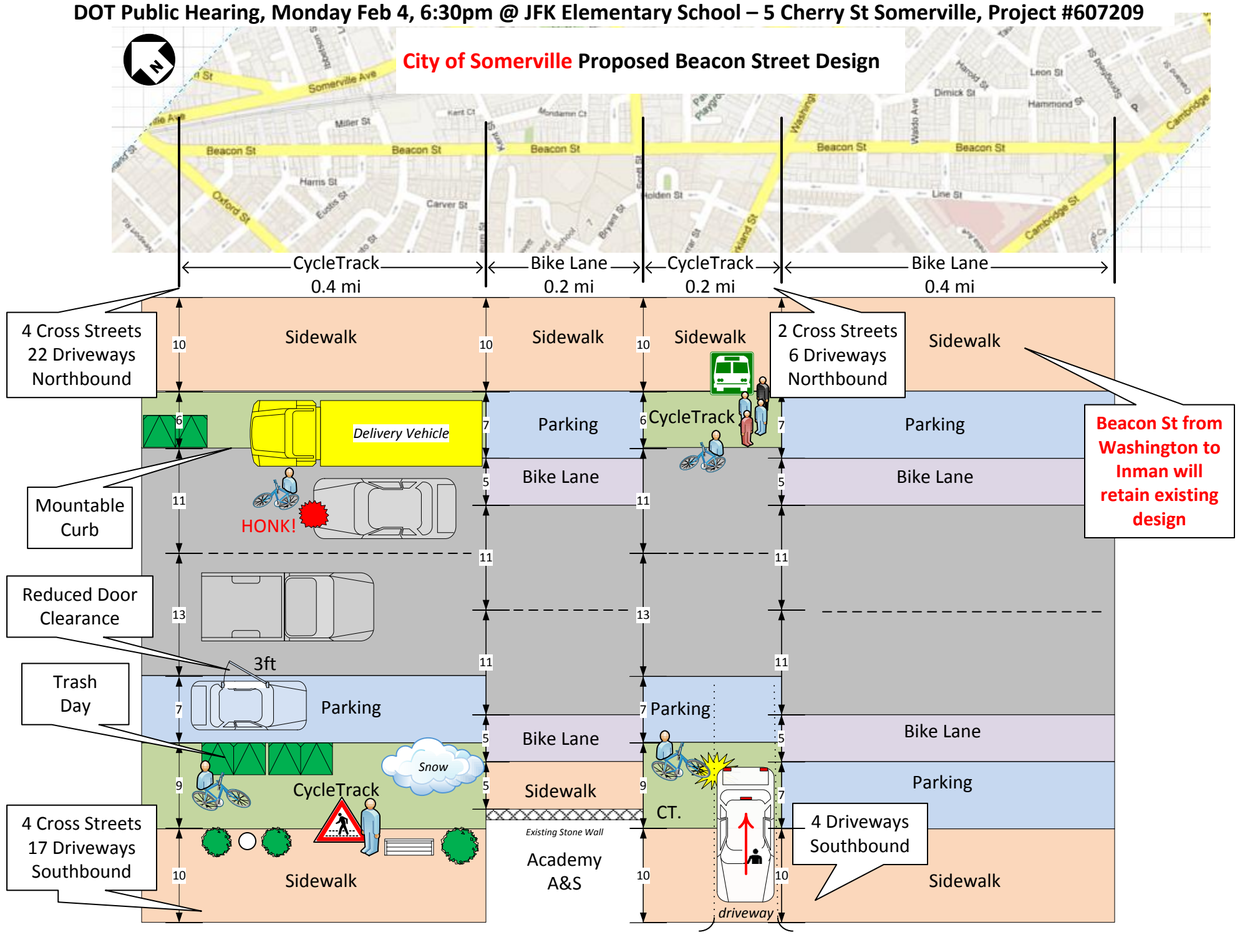
massDOT
Massachusetts Department of Transportation
Highway Division

PUBLIC INFORMATIONAL MEETING SIGN-IN SHEET

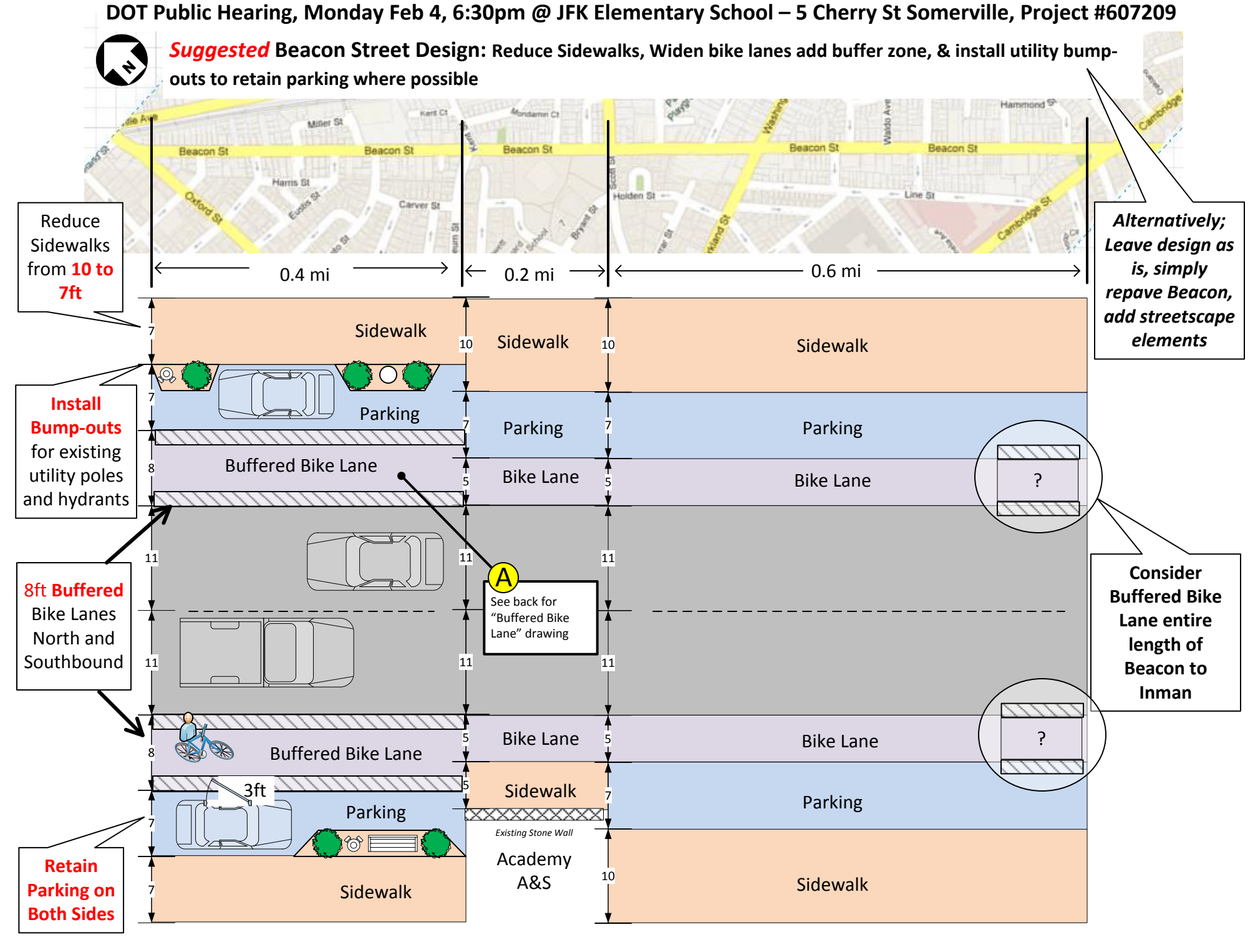
Project:	*Somerville – Beacon Street*	**Meeting Date: June 3, 2014**	
Facilitator:	MASSDOT – HIGHWAY DIVISION	**Place/ Room:**	

	Name (Please Print)	Affiliation	Phone
37	Adam Boyland	Somerville resident MassBike member	(443) 310-7877
38			
39			
40			
41			
42			
43			
44			
45			
46			
47			
48			
49			
50			
51			

DOT Public Hearing, Monday Feb 4, 6:30pm @ JFK Elementary School – 5 Cherry St Somerville, Project #607209

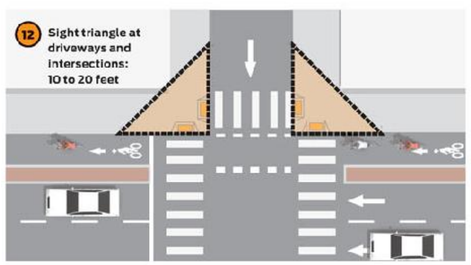


DOT Public Hearing, Monday Feb 4, 6:30pm @ JFK Elementary School – 5 Cherry St Somerville, Project #607209



Residents/Pedestrians/Businesses

- Tighter clearance for parked car door opening (from 5 feet to 2 feet)
- Loss of at least 111 parking spots: **Takes an adequate parking situation to prohibitive**
- Making cycletrack safer would require removing more parking at every intersection and driveway to improve sightlines' (reference drawings below)
- CycleTrack becomes very large sidewalks (19ft and 16ft)
- Pededstrians are allowed by law to walk on CycleTracks
- No provisions for snow emergency or street cleaning
- No relief parking to east or west of Beacon (MTBA & Cambridge)
- Property values may be impacted
- Cycle track impedes business loading zones
- Cycle track will impact driving customers' ability to patronize establishments
- 780 signed petitions against design
- Delivery vehicles will block traffic



City Design Does Not Comply With These 2 NACTO Safety Recommendations

Bicyclists

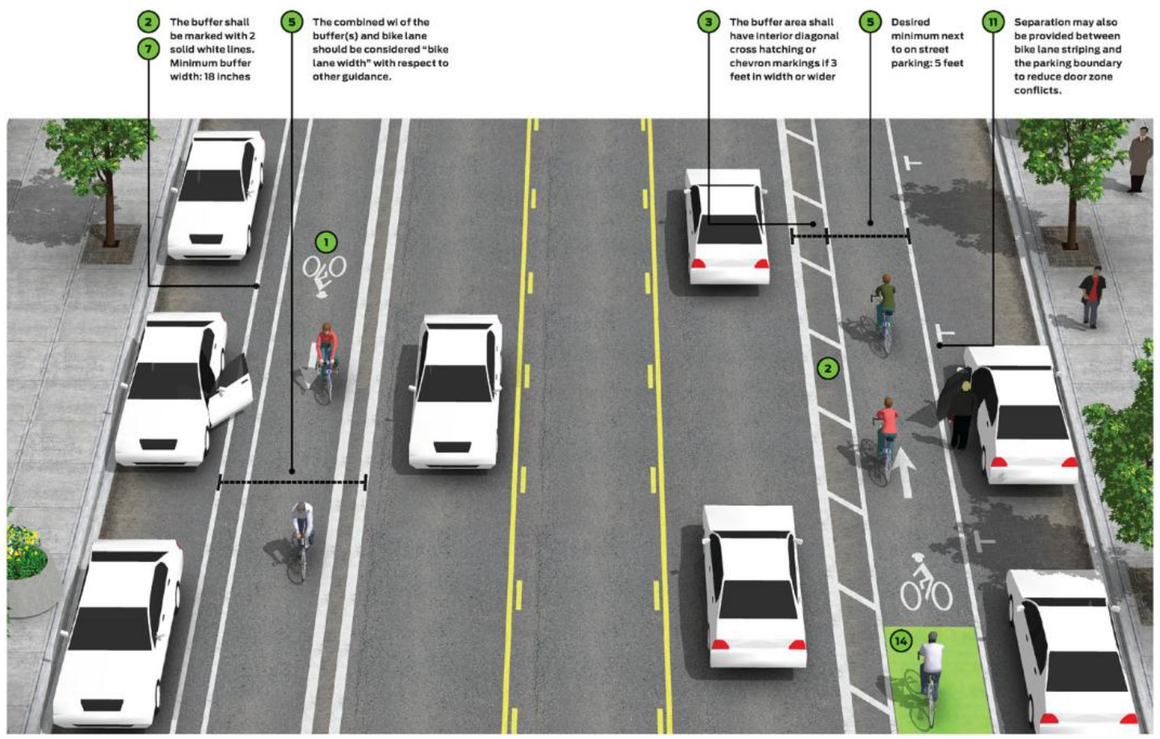
- Studies show cycle tracks cause a large increase in intersection collisions
- Turning motorists cannot see bicyclists, especially those coming from behind parked cars
- Bicyclists are also at risk from cars pulling into and backing out of driveways
- To mitigate this problem, design guidelines call for removing more parking at every intersection and driveway
- People will walk in the cycle track and stand in it while waiting and exiting the bus -- and they are legally allowed to do so
- Trash cans and snow will be stored on the cycle track
- Delivery vehicles will park in and block the west side cycle track
- Bicyclists will continue to use the roadway when the cycle track is blocked or snowy, or because they find it to be slower and more dangerous
- No proper accommodation will be provided for bicyclists using the roadway, which is required by state design guidelines
- Bike lanes outside of the "door zone" can provide ample room and do not prevent bicyclists from using all of the roadway when necessary to pass, prepare for a left turn, etc.
- Slow cyclists are legally permitted to use the sidewalk

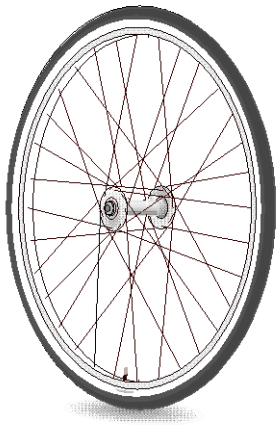
Information provided by Cyclists for Road Rights Awareness and Safety (CRRAS)

NACTO National Association of City Transportation Officials

A Buffered Bike Lane Design Guidance

http://nacto.org/cities-for-cycling/design-guide/bike-lanes/buffered-bike-lanes/





John S. Allen
7 University Park
Waltham, MA 02453-1523
jsallen@bikexprt.com
(781) 891-9307 voice/fax

- Technical writing, translation
- Mechanical design, acoustics
- Consultant on bicycling
- Effective Cycling instructor

February 14, 2013

Thomas F. Broderick, P.E.,
Chief Engineer, MassDOT,
10 Park Plaza,
Boston, MA 02116,
Attention: Project Management Section,
Project File No. 607209

Dear Mr. Broderick:

I speak as a cycling advocate of 35 years standing in the Boston area.

Some other cyclists will comment on the Beacon street project in favor of "cycle tracks" – barrier-separated bikeways in the street corridor. My impression is that a goal of this advocacy is to gain acceptance and official sanction for the concept of "cycle tracks", to get a "foot in the door", so to speak – while neglecting to examine whether these actually are practical and safe at this location.

A stated goal of this advocacy is to attract novice and child cyclists to ride on Beacon Street. That would be a laudable goal if it could be achieved safely, but it cannot – and it leads to serious problems for all other users of the corridor, including the bulk of the cycling population. This goal plays on the widespread belief that safety can be increased by removing cyclists from the Beacon Street roadway; and on the misconception that rear-end collisions are the most common and serious car-bike crash problem. Neither of these beliefs is accurate.

Also, some political leaders appear to believe that the proposed design is innovative and forward-looking and will resound to their credit.

My approach to the Beacon Street project, as to others, is to examine technical details, consult the research literature, and take designs on a case-by-case basis. You may find my positive comments online about separate bikeways in the street corridor on 9thAvenue, in New York City, which has a traffic signal at every intersection and no driveway crossings, and on University Avenue in Madison, Wisconsin, where a contraflow on-street bikeway serves cyclists at the University of Wisconsin. On the other hand, I opposed the design implemented on Concord Avenue in Cambridge, but I proposed a different design which also would have a separate bikeway in the street corridor -- entirely on the south side, with one signalized crossing rather than there also being a bikeway on the north side, where it crosses 24 driveways and 8 streets in 3000 feet.

I agree with proponents of the cycle tracks that Beacon Street is not very good for bicycling at this time. The deteriorated road surface is one serious problem, worsened by delay in reconstruction. Bike lanes in the door zone of parked cars, on this roadway of marginal width, are another problem, and intersections pose yet a third.

The fundamental issue with the reconstruction is how to address these problems to serve the needs of all users of Beacon Street as optimally as possible.

My preference

There are far better solutions than the proposed cycle tracks. As a cyclist, my preference is to widen the traveled area of the street. I know of two ways to do that:

- The one I most like was put forward by David Olmsted, and would narrow the sidewalks to 7 feet -- still ample -- in order to widen the roadway and allow bike lanes to be safely outside the door zone of parked cars. As Olmsted has suggested, bump-outs around utility poles would avoid the need to move most of them. This solution would entail little or no reduction in the on-street parking which is important to residents and businesses along Beacon Street. This option also would allow improvement east of Washington Street, where parking demand is high and the proposed design would make no improvement. I am pleased to hear that the design consultant considers Mr. Olmsted's option to be feasible.

- Another option would remove parking on one side of the street, as already proposed in the current plan, so a bike lane on the other side can be placed safely clear of parked vehicles.

As a bicyclist, I'd be happy with either of these options, or a combination of them. I understand that parking removal is not popular with residents, but on the other hand, it is already under discussion, and with bicyclists on the widened roadway rather than behind parked cars, safety is better than with the proposed cycle tracks. Far fewer parking spaces need be removed, because blind conflicts would not occur between bicyclists and turning motorists at driveways. (I'll have more to say about that later).

Also, attention needs to be paid to intersections so that cyclists have a clear line of travel through them, and so motorists are directed to merge across cyclists' line of travel when preparing right turns. This can be accomplished by removing a few parking spaces before major intersections, so as to create right-turn pockets.

Other desirable amenities would include bicycle parking, and speed tables at crosswalks so as to control motorists' speed. Traffic-law enforcement and signal timing also can help with this. An educational campaign would inform travelers as to how to use the corridor safely and efficiently. Parking management could lead to more efficient and convenient use of available parking resources, to the advantage of resident and businesses.

I also note that a bikeway in the unused width of the Fitchburg Line rail corridor has been proposed, and this would provide a nearby parallel route suitable for timid or child cyclists. This possibility has already been discussed by the City of Cambridge.

The proposed design

The proposed design would have a sidepath ("cycle track") behind parked cars over much of the southwest side of Beacon Street, and a bike lane behind a mountable curb (also called a "cycle track", though it would function as a bike lane) on much of the northeast side. In the section from Museum Street to Park Street, parking would be removed on the south side, and a sidewalk would be added there. This segment would have bike lanes on both sides, but due to the narrowing of the roadway, the one on the north side would be in the door zone of parked cars, as at present. East of Washington Street, there would be no change from the present configuration, with parking on both sides, and bike lanes in the door zone.

Technical issues

Let me now describe some technical problems with the proposed design, in detail:

A primary one is that the Beacon Street corridor is not wide enough to accommodate the sections with cycle tracks without very serious impairment of traffic flow. The reduction of on-street parking would inevitably result in a major increase in illegal parking and standing, as has been at least indirectly acknowledged by the Mayor of Somerville (in a letter to Beacon Street business owner Domenic Ruccio):

> …fuel deliveries will occur as they have always occurred – and at the same locations. Either the trucks will cross the mountable curb of the cycle track to enter the driveways they currently use or, as in the case of the photograph you sent in, they will park in front of the abutter. They would do this in the new design by mounting the cycle track and blocking it for the limited time needed to deliver the fuel.
>
> In other words, fuel trucks will do what they have always done: single-park or double-park in front of the delivery location and obstruct traffic flow (bicycle or auto) until the delivery is complete."

But it isn't the same, because, without parking, the fuel trucks and other delivery vehicles on the side without parking will have to stop in the cycle track rather than in the parking lane; and parking spaces on the other side will be more heavily occupied.

There are other technical issues.

- Most car-bicycle collisions occur due to crossing and turning movements. "Right hook" and "left cross" collisions are the most common types and the most common causes of fatalities to cyclists in urban areas. Beacon Street has dozens of residential and commercial driveways, and several street entrances and crossings. Cycle tracks behind parking trap bicyclists where they are hidden from crossing and turning motorists. Lacking parking setbacks at every intersection *and driveway*, cycle tracks force motorists to turn across the path of bicyclists they cannot see.

  In that context, here is another quote, from Somerville Planning Director Hayes Morrison:

  > "Neither the AASHTO green book not the MUTCD have any parking restrictions at driveways. At these locations, parking restrictions will be consistent with the [Somerville] April 2011 Traffic Regulations, which state that parking is prohibited 'in front of any driveway, including 2 feet in either direction from the driveway.'
  >
  > No current legal spaces at either side of driveways on the southbound/even side of the street will be eliminated."

  A 2-foot clear zone to parking either side of a driveway may be sufficient for safety of pedestrians on a sidewalk, but it by no means provides adequate sight triangles between motorists entering driveways, and bicyclists traveling at speeds up to and beyond 20 miles per hour, concealed behind a line of parked motor vehicles. Furthermore, the AASHTO Green Book is not AASHTO's reference on bikeway design. That is the AASHTO Guide for the Development of Bicycle Facilities, which includes numerous warnings about the hazards of bikeways behind parking and which cross driveways.

- Motorists who are aware of the driveway crossing hazard will slow to a crawl, blocking traffic in the street. The motorists are supposed to yield to bicyclists, but because of the protruding hoods of their vehicles, they can't see the bicyclists, and the bicyclists will have to yield. Safe bicycle speed also, then, is very slow.

- A bikeway behind parking designated for one-way travel also promotes two-way travel, leading to greatly increased risks, because motorists and cyclists converge on each other from unexpected directions.

- Dividing up the width of a road corridor reduces the usable width due to the increasing number of buffers required. Specifically, the proposed design trades a left-side door zone for a right-side door zone. And, then with the "reveal" (low curb) on the sidewalk side of the bikeway, only about 4 feet of its width will be clear of these hazards. Motorists will open their doors on the street side, no longer in conflict with bicyclists, but instead in conflict with motor traffic.

- The ability to overtake on cycle tracks is limited by their width, and as the one behind parking reaches capacity, all bicyclists will be limited to the speed of the slowest.

- Over the years, the traffic mix is going to change in unpredictable ways, with different types of vehicles of different widths, and which travel at different speeds. A single, wide roadway can adapt dynamically to different traffic mixes and can be restriped if needed. The unchangeable, literally cast-in-stone reconfiguration proposed for this street offers no such flexibility. Cycle track Installations in other cities are typically implemented using striping, traffic islands and removable barriers, retaining flexibility for reconfiguration without full-depth reconstruction. Cambridge, and now Somerville, are unique in grasping the opportunity presented by full-depth reconstruction to narrow roadways irrevocably.

- Where would residents put out trash barrels? Answer: on the cycle track, if Concord Avenue in Cambridge offers any example.

- Pedestrian-bicycle conflicts increase, and particularly at intersections and bus stops.

- Cycle tracks are difficult to keep clear of snow, ice and trash. That is particularly true of the proposed design. A snowplow truck would have to keep clear of the mountable curb on the northeast side, or risk damaging it. The gutter at the foot of the mountable curb is a conduit for stormwater, and at a time of melting and freezing, it becomes a sheet of ice. Keeping a cycle track between parking and a sidewalk clear of snow and ice so that it is rideable is very difficult. By way of contrast, a conventional, crowned street profile carries meltwater away to the curbs.

The research literature

Repeated claims of safety for cyclists have been made for the proposed design, backed up by erroneous and selective interpretations of research literature.

The Design Exception Report for the project cites a Montreal study which claims a 28% reduction in crashes on cycle tracks, compared with streets. That study lacks credibility, because it makes invalid comparisons, and also

fails to count injuries to pedestrians. A careful analysis of that study is available here: http://john-s-allen.com/montreal-kary.html.

The Design Exception Report also cites the large and careful 2007 Copenhagen study. That report shows that the overall crash rate increased by 10% and the crash rate for cyclists, by 30%. The conclusions are unequivocal, see http://www.facebook.com/media/set/?set=a.1422969945625.54796.1574017310&l=6d6baf5bf4. This is despite the much smaller number of driveways on the Copenhagen installations. The design of the Copenhagen installations is much more ample and forgiving than that of the proposed Somerville installation. The Design Exception Report has turned the Copenhagen report on its head, claiming that it actually shows a reduction in the crash rate.

European practice is often held up as a model for Americans to follow, but it should be noted that there has been much opposition to underdesigned bikeways in Europe, and particularly in Germany. Here, for example, is a quote from Tilman Bracher of the German Cycling Federation, commenting in 2007 about a study of bicycle crashes in Berlin conducted by that city's police department:

> The problems with sidepath placement leading to crashes at intersections and driveways are known to police and planners in Berlin, and the knowledge has spread… Bikeways are now, as a rule, planned as bike lanes on the roadway, or bicyclists ride in mixed traffic. Many sidepaths have been removed. We are on the way to make the new planning that started with the police study mainstream.

This quote and other documents illustrating the same point may be found linked at http://www.bikexprt.com/bikepol/facil/sidepath/index.htm

The example which I think is most relevant to the proposed design is from Davis, California, where one of three designs tried in the 1970s was bikeways behind parked vehicles, a design quickly abandoned due to hazards recognized by bicycling advocates of all shades of opinion, in a community with heavy bicycle use and a climate of strong support for bicycling. A summary of the Davis experience, with links to documentation, is here: http://john-s-allen.com/blog/?p=1927

Project documentation, and what it shows:

Plans for all MassDOT projects are supposed to be posted online at 25 percent design review, along with a basic project checklist that includes measures of pedestrian and bicycle accommodation.

Overhead views were hung on the walls and placed on tables at a January 28 public meeting so meeting attendees could write suggestions on them, and then these were withdrawn for review by the consultant. Plans were not online as of the February 4 public hearing. The only engineering drawings online were three cross-section drawings. The available documentation did not show anything, for example, about traffic signal timing, construction phases, or utility connections. The overhead views showed only the proposed treatment, without reference to existing conditions. The overhead views were not dimensioned. Similar drawings were posted at the February 4 meetings, and again, these did not qualify as engineering documents.

In reply to a request for the plans from a Somerville resident between the times of the two meetings, the City sent an e-mail with the same watercolor paintings of conceptual street views which were already available in

the Design Exception Report. Just looking at them, it is obvious that they are inaccurate; for example, the cycle track on the side with the mountable curb is shown much wider than the 6 feet described in the cross-section.

Some highly unfortunate design elements also are shown. The mountable curb is of brick. Does anyone involved in the design of this project understand what it is like to ride a bicycle over a brick surface with a side slope? One of the paintings shows a series of traffic islands with plantings, which do not correspond to any of the described cross sections. These , and a traffic island in another drawing, force motorists to make wide right turns from the left of the island, with cyclists to its right. It's bad enough to require motorists to turn right from the left side of bicyclists, but thanks to the width of the island, bicyclists often will be outside the scope of the motorists' right-side rear view mirrors.

All of the watercolors represent daytime lighting conditions, but they show astonishingly low levels of traffic of all kinds, -- bicycle, motor and pedestrian, a traffic volume which might be expected at 3 AM on a Sunday morning. One drawing shows a cyclist riding the wrong way on a cycle track. No directional markings are shown.

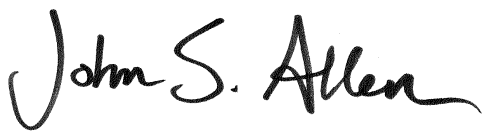
At the February 4 public hearing, the design consultant described a new design element: a 3-inch "reveal" between the cycle track and sidewalk. This is another name for a low curb, a longitudinal step. It would sweep the front wheel of a bicycle aside, preventing balancing the bicycle and resulting in a hard fall. It would also complicate snow clearance.

These issues do not promote confidence in the functionality of the design, or in the public process.

Summary

To summarize: I strongly advise that the Beacon Street reconstruction be configured to provide more travel width in the roadway, so that bicyclists and motorists can share it safely and amicably; that intersection design reflect best practices of traffic flow, and particularly, destination positioning so that drivers merge before turning rather than turning abruptly across the line of travel of cyclists; that motorist speed be controlled through speed tables, signal timing and traffic law enforcement; that education and parking management be part of the planning for the project; and that alternate, truly safe and separate routes be developed for cyclists who are uncomfortable with riding on an improved Beacon Street.

Very truly yours,



cc:

Luciano Rabito, MassDOT
Shawn Holland, MassDOT
Senator Patricia Jehlen
Janice Delory, City of Somerville
Hayes Morrison, City of Somerville.

Astrid A. Dodds
73 Wendell Street
Cambridge, MA 02138-1963
617-354-6553 / astrid.dodds@earthlink.net

7 June 2014

Attn: Project Management Section
Project File No. 607209
Beacon Street, Somerville

Patricia Leavenworth, P.E., Chief Engineer
Mass. Dept. of Transportation
10 Park Plaza
Boston, MA 02116

Dear Ms. Leavenworth:

Please reject the current plan to pave Beacon Street crosswalks in reddish-brown concrete pavers edged with a granite strip. To be visible at night, in bad weather, and even in daytime, all of the Beacon St. crosswalks should be marked in wide, white, reflective thermoplastic zebra stripes – or inlay tape: the universally-recognized symbol for "pedestrians crossing".

Concrete paver crosswalks:

- are ***not*** the international symbol for pedestrians crossing. Texting, phoning, and otherwise impaired Beacon St. drivers need easily-recognized symbols, including at signalized crosswalks.

- can be a trip hazard for any walker when a paver loosens under the daily impact of 18-wheeler trucks.

- vibrate uncomfortably for people using wheelchairs, walkers, pushing a stroller or grocery cart or pulling a suitcase

- have low reflectivity in daytime, at dusk, at night, and in stormy weather, making it harder for drivers and cyclists to detect pedestrian presence in the roadway and to respond accordingly.

Granite crosswalk edging is an aesthetic frill which undermines pedestrian safety.

- Granite edging settles unevenly, creating a *trip* hazard. See Harvard and Davis Squares.
- Granite surfaces freeze sooner than adjacent materials, creating a *slip* hazard.
- Granite edging provides minimal color contrast, no reflectivity, and is difficult to install.

I am glad that some crosswalks are added and that two existing crosswalks are kept where they are. However, in proposing to mark crosswalks with concrete pavers, the Beacon St. project appears to be choosing aesthetic goals over preservation of pedestrian life and limb. For example, the 5/13/14 project presentation notes "new concrete paver accent strips" along sidewalk edges, as though in that location, brick-colored concrete pavers are an aesthetic choice. What is the excuse for using them in the middle of the road?

ALL of the Beacon St. crosswalks should be marked in wide, white, reflective thermoplastic – or inlay tape -- zebra stripes.

- Walk Boston, with members in 75 MA towns, including Somerville, urges the Beacon St. project to use white, reflective thermoplastic zebra stripes to mark all pedestrian crossings. (See enclosed copy of Walk Boston 5/13/14 letter.)

- Cambridge is installing white, reflective zebra stripes at most crosswalk locations. *Continuity and uniformity helps all users*. When an MV driver killed a pedestrian on a sunny day in Jan. 09 at a raised intersection paved entirely in reddish-brown pavers, Cambridge repaved all four sides with asphalt so that reflective crosswalk zebra stripes could be applied.

- An Oct. 2010 FHA "Crosswalk Marking Field Visibility Study" (FHWA-HRT-10-068) concluded that white wide zebra stripe markings ("continental") were more readily recognized as crosswalks by MV drivers than "transverse" (2 white horizontal lines across the street) markings were. (Copy enclosed.)

- The superiority of reflective thermoplastic stripes is illustrated at dusk by the way pedestrians in dark clothing are silhouetted against white zebra stripes as they step into two busy Elm St., Somerville, crosswalks adjacent to Porter Shopping Center.

The Feb. 2013 comments I sent to Mass. DOT Chief Engineer Thomas Broderick protested the plan to pave Beacon crosswalks in cement pavers. I am trying again because I have lived 2 blocks from Beacon St. for 40 years and I cross it on foot more days than not. My Cambridge neighborhood is filled with residents who walk to Beacon St. businesses.

It is not too late to do the right thing. Crosswalk markings should make it easy for motor vehicle drivers to respond *automatically* to the presence of pedestrians in the roadway. Please scrap the invisible, non-standard red-brown pavers in favor of the crosswalk markings that work best for drivers – and therefore for pedestrians as well: wide, reflective white thermoplastic zebra stripes.

Sincerely,

Astrid A. Dodds

Astrid A. Dodds
Member, Cambridge Pedestrian Committee, 1994-2000
Member, Walk Boston

Enclosed: 5/13/2014 Walk Boston letter & FHA Crosswalk Marking Field Visibility Study (2010)

CC: Shawn Holland, MA DOT; David Giangrande; Hayes Morrison, Walk Boston, MA State Senator Pat Jehlen, Ward 2 Alderman Maryanne Heuston

walkBoston™

May 13, 2014

Richard K. Sullivan, Jr.
Executive Office of Energy and Environmental Affairs
Attn: Alex Strysky
100 Cambridge St., Suite 900
Boston MA 02114

Mark Kolonoski
MassDOT Highway Division
Environmental Services Section
10 Park Plaza, Room 4260
Boston, MA 02116

RE: Comments on the Environmental Notification Form for the Beacon Street Multimodal Improvements and Streetscape Enhancement in Somerville, MA

Dear Secretary Sullivan and Mr. Kolonoski:

The Beacon Street project area extends from the bridge abutment at Oxford Street to Dickinson Street, a distance of approximately 1.1 miles. The project is intended to enhance pedestrian and bicycle movements with improved streetscape, wider sidewalks, a new cycle track/bicycle lanes, and new ADA compliant curb ramps. The project goal is to enhance the multimodal connectivity of the Beacon Street Corridor.

We have reviewed this project and offer the following comments:

1. **Updated and continuous sidewalks on Beacon Street**
   The program for complete streets along Beacon Street will result in new cycle tracks and a significant reconstruction of both the street and the sidewalk. Sidewalks are to be updated and rebuilt to correct current deficiencies, including substandard slopes and lack of ramps at intersections. A sidewalk will be added to the south side of Beacon Street in a location where no sidewalk now exists. Adherence to this plan is essential for the safety and convenience of all users of the sidewalk.

   The proposed sidewalks will replace the existing 10'-11' wide sidewalks with new ones of substantially the same width. Retention of this dimension as a minimum is extremely important because some space within the sidewalk will accommodate other uses, such as trees. In only one portion of Beacon Street, where there are space constraints due to an existing stonewall, will the 10'-11' width be precluded; we note that no trees are planned for the sidewalk in this section.

2. **Cycle tracks and bike lanes**
   Cycle tracks are proposed between Oxford Street and Museum Street, bike lanes between Museum Street and Park/Scott Streets, cycle tracks between Park/Scott

Streets and Washington Street and bike lanes between Washington Street and the Cambridge City line. On the north side of the street, the alignments of the cycle tracks and bike lanes are end-to-end, resulting in a virtually straight path for the full length of the project.

On the south side of the street the cycle tracks and bike lanes do not quite line up. The transitions between cycle tracks and bike lanes at the intersection of Beacon Street/Museum Street and Park Street/Washington Street are angled to accommodate the needed connections between cycle tracks and bike lanes. These intersections have crosswalks where pedestrians will cross near the bike routes. Since separate traffic signals for bicycles are not included in the project, WalkBoston is concerned that walkers may not be aware that bicycles are approaching at these intersections and need to be especially careful because these diversions might distract the cyclists or the motorists. We request that special signage and/or pavement markings be provided to alert walkers, bicyclists and drivers of these shifts in alignment and the need to be aware of movements by others.

3. **Separation of cycle tracks and sidewalks**
In several locations, the proposed cycle tracks are immediately adjacent and at the same grade as the sidewalk. In effect the cycle track will be located on an extension of the sidewalk. A pronounced and clear separation between bicyclists and walkers is needed to deter cyclists from using the sidewalk to bypass slower moving bikes. The starting and stopping of cycle tracks and bike lanes may be confusing and lead to cyclists using the sidewalks to avoid merging into traffic or worrying about people opening car doors directly in front of them.

Since all 208 of the street trees included this project are to be planted within the width of the sidewalk, we assume that they will help to separate the cycle track from walkers. Other street furniture such as the existing utility and lighting poles, or new benches, trash containers, bollards or signs might also help. The precise location of each element should be carefully considered, as they have the potential to interfere with pedestrian or bicycle movements.

4. **Placement of trees**
Although the sidewalks are 10 feet wide in nearly all locations along Beacon Street, some of that width – perhaps up to 5 feet - will be lost due to the planting of 208 trees directly in the sidewalk. All of the proposed new trees should be placed in long narrow tree pits (we have seen tree pits that are 2' wide by 6'-8' long). More typical 4-foot square tree pits that intrude into the sidewalk should not be used. Irrespective of the shape of the tree pit, tree grates and or special permeable but sturdy filler (similar to that used in some South End locations) should be explored. This is important for the safety of walkers, as is the long-term maintenance of the tree pits so that they do not pose tripping hazards for walkers or for the visually-impaired.

5. **Traffic signals at crosswalks and mid-block**
New traffic signal equipment and signal timing at the intersections of Beacon Street with Park/Scott and Washington Streets are planned. In addition, two High-Intensity Activated crossWalK (HAWK) pedestrian signals on mast arms are planned for

pedestrian crossings at the Sacramento Street intersection and at the Buckingham/Cooney intersection. The project thus appears to have signals of some sort at intervals of about ¼ mile; however, in the portion of Beacon Street between Sacramento Street and the rail overpass at Somerville Avenue, the intersections with Oxford and Prentiss Streets have no traffic signals. With no signals to slow traffic these mid-block crossings may be difficult for pedestrians. Signage or other warnings may be essential to inform drivers and cyclists of the crosswalks.

6. **Crosswalk paving**
   The proposed use of concrete pavers at crosswalks has been cited by one of our members as a hazard for nearly all walkers, and we agree. For all crosswalks on Beacon Street, the customary white reflective thermoplastic strips should be used. Pavers have low visibility and are uneven, making it harder for wheelchairs, seniors, and people pushing strollers or grocery carts.

7. **Pedestrian signal phasing**
   At existing signal locations the exclusive pedestrian phase will be replaced with concurrent pedestrian phasing. For all new signals, a leading pedestrian interval (LPI) is proposed to allow pedestrians to enter the crosswalk before vehicles approaching the intersection have a green signal indication. It will be important to coordinate the LPI at each signalized intersection with any preferential treatment given to bicycles at the same location, to avoid potential conflicts.

8. **Signage**
   There is a need for sidewalk and cycle track signs that make it clear to walkers, bicyclists and drivers how the cycle tracks function. In particular, since all the street's users will be unfamiliar with cycle tracks it will be important to let pedestrians know what to expect in bicycle movements adjacent to them. Signs should advise bicycles to stay within the cycle tracks and avoid using the sidewalks. Signs should advise walkers of approaching bicycle traffic,places to wait before crossing the street, and to not walk in the cycle tracks. Specific notice should be given to cyclists and pedestrians of potential conflicts at intersections, where turning bicycles, vehicles and pedestrians present many different movements.

9. **Lighting**
   New street lighting has not been proposed, and cyclists may be 'invisible' to walkers and drivers. The City should explore the need for additional lighting, especially at intersections where so many different movements will be taking place. In addition, as part of the introduction of the cycle track, the City should explore the opportunity to market and enforce state laws requiring bicycles to carry white front lights on bicycles visible that are visible from 500 feet. WalkBoston has received comments from a number of our older members that they find it impossible to see bicyclists approaching at night if they do not use head lights, and with the addition of a sidewalk level cycle track they are very nervous about crossing the track at intersections.

10. **Driveways**
    A great number of private driveways will be accommodated with this design, with each

rebuilt to cross both sidewalk and bicycle facilities. The north side of the street has 43 driveways and the south side has 30. Most of the driveways are narrow, and will involve drivers who will back out to reach Beacon Street. Drivers backing vehicles into the street may have obstructions that limit abilities to see approaching walkers, runners or cyclists.

11. **Speed control**
    Speeds on local streets that are primarily residential such as Beacon Street should be strictly regulated. The current 30-mph limit should not be raised. It should be made lower with advisory signs if possible. Reminder signs should be posted at intervals along the route to warn drivers not to go faster.

Thank you for the opportunity to comment on this project. Please feel free to contact us if you should have questions.

Sincerely,

Wendy Landman
Executive Director

Robert Sloane
Senior Planner

Cc: Hayes Morrison, Somerville Director of Transportation and Infrastructure

TECHBRIEF

Crosswalk Marking Field Visibility Study

FHWA Publication No.: FHWA-HRT-10-067.

FHWA Contact: Ann Do, HRDS-07, (202) 493-3319, ann.do@dot.gov.

This document is a technical summary of the Federal Highway Administration (FHWA) report, Crosswalk Marking Field Visibility Study, FHWA-HRT-10-068.

Objective

The objective of this study was to investigate the relative daytime and nighttime visibility of three crosswalk marking patterns: transverse lines, continental, and bar pairs.

Background

Crosswalk markings provide guidance for pedestrians crossing roadways by defining and delineating paths on approaches. These markings are used in conjunction with signs and other measures to alert road users to a designated pedestrian crossing point. Part 3 of the Manual on Uniform Traffic Control Devices (MUTCD) contains basic information about crosswalk markings.[1] Because some States adopt their own supplement or manual on traffic control devices and some develop policies and practices for subjects not discussed in the MUTCD, differences in markings occur among States, cities, and other jurisdictions.

While greater emphasis has recently been placed on researching pedestrian treatments, there is insufficient research to identify the relative visibility and driver behavior effects of the many different styles and patterns of crosswalk markings being used in the United States and abroad. Previous studies focused on whether the presence of the markings (rather than a specific pattern) was effective.[2,3,4] The lack of knowledge of the relative visibility of different marking patterns has inhibited the development of a consensus on whether more uniformity is needed in the form of tighter MUTCD standards or more comprehensive guidance on crosswalk markings.

U.S. Department of Transportation
Federal Highway Administration

Research, Development, and Technology
Turner-Fairbank Highway Research Center
6300 Georgetown Pike
McLean, VA 22101-2296

www.tfhrc.gov

Study Approach

In this study, participants drove an instrumented vehicle on a route through the Texas A&M University campus in College Station, TX. The route provided an open road environment that included portions in a typical college setting (e.g., sidewalks, buildings, basketball arena) and roads through the agricultural area of the campus, which were more rural in feel. Roadway lighting was present at each of the crosswalk locations. The study vehicle was equipped with instrumentation that allowed the researchers to measure and record various driving performance data. However, the vehicle operated and drove like a normal vehicle.

The 78 participants were divided almost evenly between groups of male and female participants and between groups of younger (younger than 55 years old) and older (55 years old or older) participants.

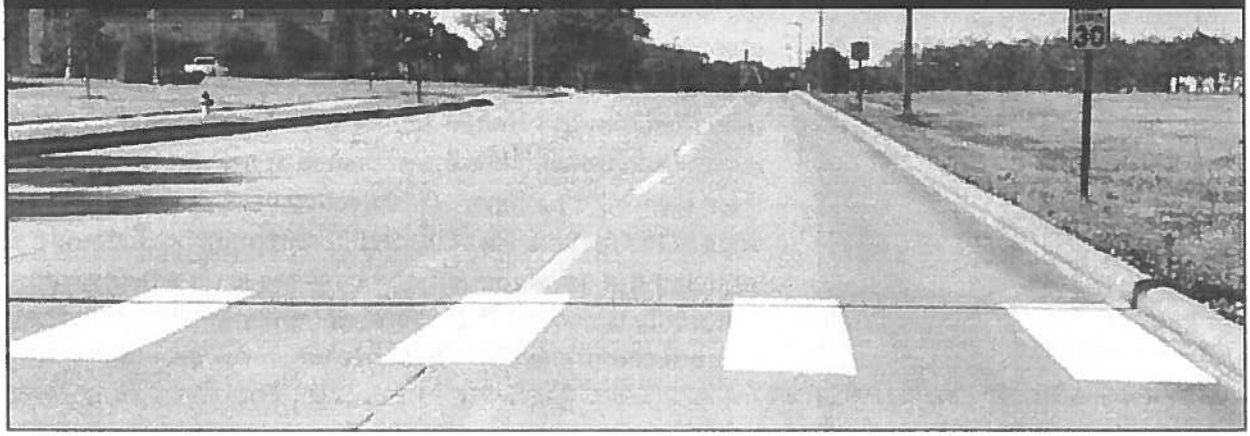
Existing markings (six intersection and two midblock locations) and new markings installed for this study (nine midblock locations) were tested. Figure 1 shows an example of the bar pairs installed for this study, figure 2 shows a continental example, and figure 3 shows a transverse marking example.

Once the participant was comfortable in the instrumented vehicle and had arrived in a parking lot near the start of the route, he or she was reminded to indicate when one of the following items was seen: crosswalk markings, two-way left-turn arrows, and speed limit signs. The arrows and signs were included to ensure that the driver utilized a normal eye glance pattern and was not exclusively searching for crosswalks. As soon as the driver said "crosswalk" the rear seat experimenter pressed the appropriate button to place a mark indicating detection in the computer file. Detection distances were adjusted by an experimenter response-time factor determined through pretesting. For the nine crosswalks installed for this study, the adjustments to the participant's detection distance ranged between 3 and 13 percent.

After completing the initial route, the participant was given additional instructions and asked to drive the same route again to rate each crosswalk marking on how easy it was to see using a scale of A (excellent: very easy to see) to F (completely unacceptable: I would have missed it if I was not looking for it).

Figure 1. Photo. Example of bar pairs markings installed for this study.

Figure 2. Photo. Example of continental markings installed for this study.



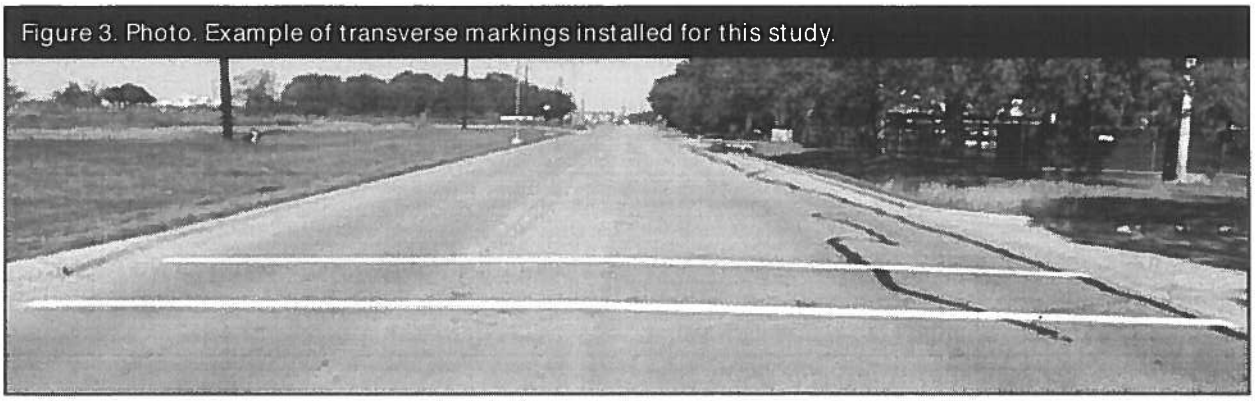


Figure 3. Photo. Example of transverse markings installed for this study.

Results

The primary objective of this research was to study the visibility of crosswalk markings by determining detection distance and identifying the variables that affect this distance. The differences in detection distances were evaluated with consideration of variables in the following classes:

- Light (day or night).
- Site characteristics.
  - Marking type (transverse, continental, and bar pairs).
  - Location (study, existing intersection, existing midblock).
  - Street characteristics (crossing width, posted speed limit, sidewalk presence, rural or urban feel).
  - Retroreflectivity.
- Traffic characteristics.
  - Traffic presence that could affect detection distance.
  - Pedestrian or bicyclist presence.
  - Driver speed.
- Vehicle type (sedan or SUV).
- Driver characteristics.
  - Driver eye height
  - Gender.
  - Age group (younger than 55 years old or 55 years old and older).

Initially, the statistical model examined contained all main effects and possible two-way interactions (termed the "extended" model). Not all variables could be included in the extended model due to exact linear dependency issues for some of the factors (i.e., a linear combination of one or more factors' values can exactly duplicate another factor's values). Next, several models with a subset of variables in the extended model were explored to determine the best model for identifying the variables that influence detection distance (termed the "reduced" model). Interactions were dropped from the reduced models when the p-value was less than 0.05 (they were not statistically significant).

The evaluations were conducted separately for the study sites (where new markings were installed at midblock locations) and the existing sites (where markings were already present at an intersection or were already present midblock and had pedestrian warning signs). The preliminary evaluations clearly showed a difference in detection distance for day and night. Because the nighttime condition had the additional variable retroreflectivity to consider and because some variables were expected to have different effects during the night (such as marking type, vehicle type, and driver eye height), separate analyses were done for daytime and nighttime conditions. In all combinations, daytime detection distances were longer than nighttime detection distances.

For the study sites, the marking type (bar pairs, continental, or transverse) was statistically significant. The detection distances to bar pairs

and continental markings were statistically similar, and they were both statistically different from the detection distance to the transverse markings both during the day and at night (see figure 4).

The presence of traffic had an impact on detection distance at the study sites, in most cases limiting the ability to see the markings farther upstream, as expected (see figure 5). The impact of traffic on the transverse markings was minimal as the detection distances to these markings were already small compared to the detection distances for bar pairs or continental. Overall, shorter detection distances were associated with higher operating speeds; however, in most cases the detection distances were only slightly shorter. The characteristics of the streets also influenced the detection of the crosswalk markings. An unexpected result was that the street group with a posted speed limit of 45 mi/h had longer nighttime adjusted detection distances than the 30 mi/h roadway sections. This finding was opposite the finding for daytime conditions.

Figure 4. Graph. Least square mean detection distance by marking type and light level for study sites.

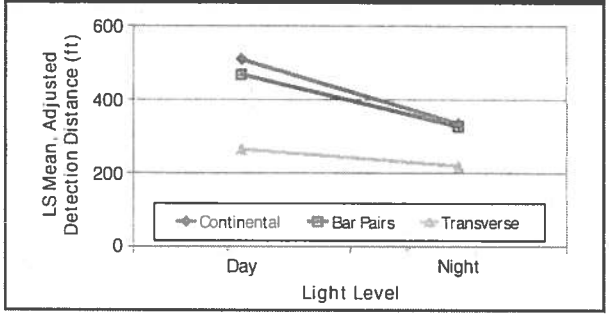
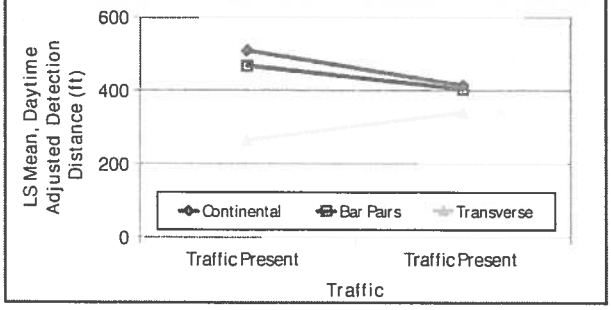


Figure 5. Graph. Least square mean daytime adjusted detection distance by marking type and traffic presence at study sites.



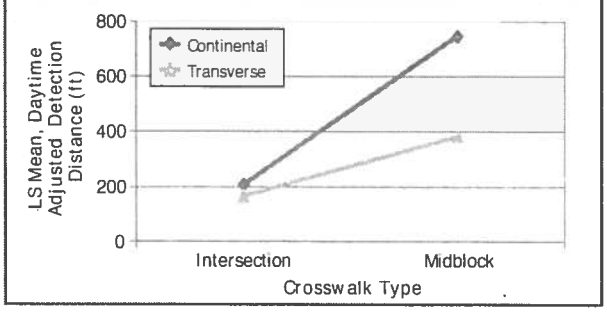
Daytime adjusted detection distances were slightly shorter for higher speeds.

Age (younger versus older) was only a significant factor during the day for the existing sites. However, the size of this difference was quite small and was not considered to be of practical significance. Variables that included gender, driver eye height, and vehicle type as part of an interaction term were found to be statistically significant, but closer examination found them to not be of practical significance.

For the existing sites, marking type had a significant effect on detection distance during the daytime at midblock crosswalks (as shown in figure 6) and at nighttime. There were no existing sites with bar pairs markings, hence only continental and transverse markings were compared. During the day, the detection distances to the continental and transverse markings at intersections were not significantly different. The detection distance to midblock continental was statistically different (longer) from the detection distance to midblock transverse markings.

During nighttime conditions at existing sites, variables in addition to marking type had an effect on detection distances, such as location (midblock or intersection) and driver speed. Driver speeds had mixed effects on detection distance depending on location (intersection or midblock) and light level (day or night). For intersections, an increase in driver speed was

Figure 6. Graph. Least square mean daytime adjusted detection distance by marking type and location at existing sites.



associated with longer detection distances for both the daytime and nighttime conditions. All of the intersections included in this project were either stop-controlled or signal-controlled. Several drivers appeared to be more focused on the stopping maneuver than the detection task and would not call out the recognition of a crosswalk until close to the stop bar.

For midblock (uncontrolled) approaches, the finding was dependent on light level. Nighttime detection distance at midblock was similar to intersections longer detection distances were associated with the higher speeds. For daytime, the opposite occurred higher driver speeds were associated with shorter detection distances at the midblock crosswalks. While the higher driver speeds were associated with shorter detection distances, the differences were small and would not be considered of practical significance.

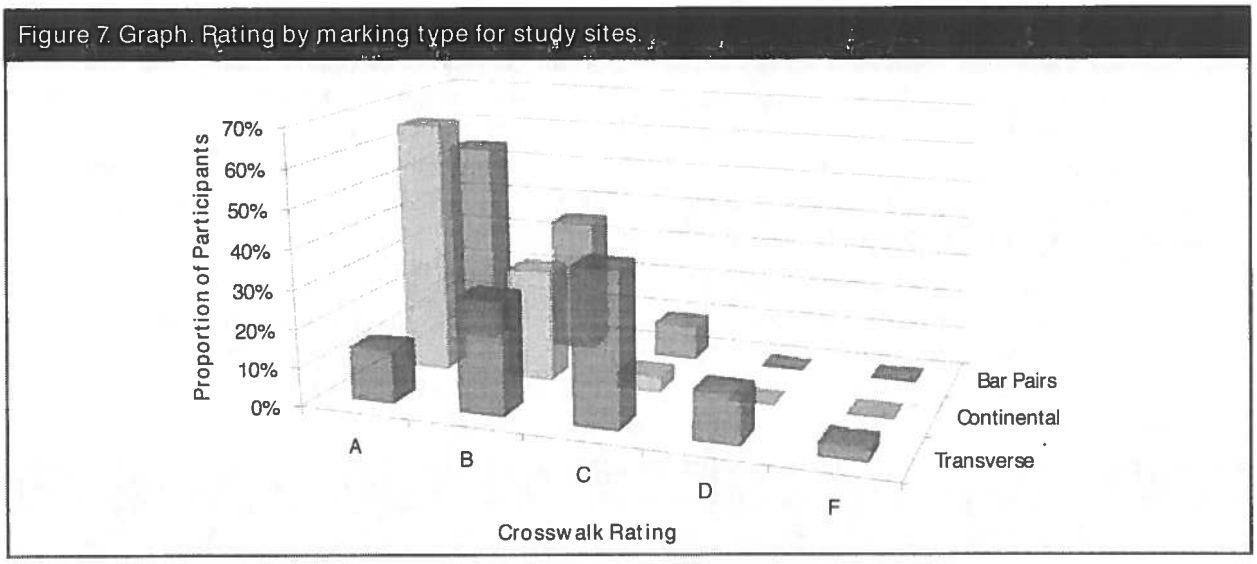
The subjective ratings of visibility using the letter-grade system were compared for all the groups/variables identified in the preceding analysis. The ratings for continental and bar pairs were consistent over various comparison groups, with better ratings for bar pairs and continental markings than for transverse markings. Figure 7 shows the overall rating received by each marking type for study sites.

Conclusions

The conclusions from this study are as follows:

- The detection distances to continental and bar pairs are statistically similar. The detection distances to continental and bar pairs are statistically different from transverse markings.
- For the existing midblock locations, a general observation is that the continental marking was detected at about twice the distance upstream as the transverse marking during daytime conditions. This increase in distance reflects 8 s of increased awareness of the crossing for a 30-mi/h operating speed.
- The results of the appearance ratings of the markings on a scale of A to F mirrored the findings from the detection distance evaluation. Participants preferred the continental and bar pairs markings over the transverse markings.
- Participants gave the continental and bar pairs markings similar ratings during both the day and night. However, the transverse marking ratings differed based on the light level. The participants gave slightly better ratings, although still worse than continental or bar pairs markings, for transverse markings during the nighttime as compared to the daytime. The lower ratings during daylight conditions could be due to sun glare or shadow issues mentioned by the participants.

Figure 7. Graph. Rating by marking type for study sites.



Recommendations

Based on the findings from this research, the researchers recommend that consideration be given to revising the MUTCD as follows:

- Add bar pairs as a usable crosswalk pattern.
- Provide typical dimensions for the marking patterns including spacing that will assist in avoiding wheel paths.
- Consider making bar pairs or continental the default for all crosswalks across uncontrolled approaches (i.e., not controlled by signals or stop signs), with exceptions allowing transverse lines where engineering judgment determines that such markings would be adequate, such as a location with low-speed residential streets.

References

1. Federal Highway Administration. (2009). Manual on Uniform Traffic Control Devices for Streets and Highways, 2009 Ed. Obtained from: http://mutcd.fhwa.dot.gov/kno_2009.htm. Site last accessed March 5, 2010.
2. Knoblauch, R.L., Tustin, B.H., Smith, S.A., and Pietrucha, M.T. (1988). Investigation of Exposure-Based Pedestrian Accident Areas: Crosswalks, Sidewalks, Local Streets and Major Arterials, Report No. FHWA-RD-87-038, Federal Highway Administration, Washington, DC.
3. Knoblauch, R.L., and Raymond, P.D. (2000). The Effect of Crosswalk Markings on Vehicle Speeds in Maryland, Virginia, and Arizona, Report No. FHWA-RD-00-101, Federal Highway Administration, Washington, DC.
4. Knoblauch, R. L., Nitzburg, M., and Seifert, R.F. (2001). Pedestrian Crosswalk Case Studies: Sacramento, California; Richmond, Virginia; Buffalo, New York; Stillwater, Minnesota, Report No. FHWA-RD-00-103, Federal Highway Administration, Washington DC.

Researchers This study was performed by Kay Fitzpatrick, Susan T. Chrysler, Vichika Iragavarapu, and Eun Sug Park, all of the Texas Transportation Institute, a member agency of the Texas A&M University System.

Distribution This TechBrief is being distributed according to a standard distribution. Direct distribution is being made to the Divisions and Resource Center.

Availability This TechBrief may be obtained from the FHWA Product Distribution Center by email to report.center@dot.gov, fax to (814) 239-2156, phone to (814) 239-1160, or online at http://www.tfhrc.gov/safety.

Key Words Crosswalk marking types, Driver preference of marking types, and Unsignalized intersection.

OCTOBER 2010

FHWA-HRT-10-067
HRDS-07/10-10(2M)E

Boston Cyclists Union
P.O. Box 301394
Jamaica Plain, MA 02130
617-620-1989

Patricia Leavenworth, P.E.
Chief Engineer, MassDOT
10 Park Plaza
Boston, MA 02116
Attention: Project Management Section, Project File No. 607209
dot.feedback.highway@state.ma.us

Ms. Leavenworth:

On behalf of the members of the Boston Cyclists Union, I would like to thank you for the work you and your colleagues at the DOT have done to ensure a bicycle and pedestrian-friendly design for the Beacon Street Reconstruction and Improvement project. We believe that the cycletracks and pedestrian safety features in the proposed 75% design are crucial steps toward realizing the DOT's visionary goal of tripling the statewide bicycle, pedestrian, and transit mode share. We are confident that the project will enrich the City of Somerville economically and culturally while serving as a model for other cycletrack corridors throughout the region.

We wanted to take this opportunity to make a few suggestions that would help further improve the Beacon Street design and help it better meet the needs of the Cyclists Union's diverse membership and the hundreds of bike commuters who use Beacon Street for commuting, shopping, exercise, and leisure.

We concur with the Somerville Bicycle Committee's desire for the following design enhancements:

- **Inclusion of raised crosswalk/bikeway through intersections with small side streets to improve cyclists' visibility and avoid changes of grade**. Cycletracks such as Concord Ave in Cambridge that use frequent grade changes have drawn heavy criticism, leading to the use of same-grade crossings in the more recent design for Western Avenue in Cambridge.
- **Extend westbound cycletrack all the way to Somerville Ave.** in order to avoid conflicts with motorists and improve connectivity to the Somerville Ave bike lanes.
- **Relocate the Route 83 bus lane to the other side of Washington Street** (near Bergamot) to reduce bicycle conflicts with motorists who enter the bus lane to turn right. Additionally, the curb should be extended outward to meet the edge of the cycletrack.
- **Use deep roadbed construction methods to prolong cycletrack lifetime.**
- **Add two-stage left turn boxes at the intersections with Washington Street and Park Street.** These features will benefit traffic-intolerant cyclists, including children.
- **Install bicycle signal heads** on the cycletrack at Washington Street and Park Street to allow the option of a protected signal phase for cyclists in the future. Anticipating this feature will be less expensive than retrofitting the signal heads after the project is completed.

In addition to these suggestions, the Cyclists Union would also like to encourage the DOT to implement the following measures:

Boston Cyclists Union
P.O. Box 301394
Jamaica Plain, MA 02130
617-620-1989

- **Install a high-profile electronic bike counter and LCD display** to foster camaraderie among cyclists, create a unique identity for the cycletrack, and add artistic flair. The counter will also help gather useful statistics on seasonal and time-of-day variation in bicycle ridership. See example from San Francisco attached as Exhibit A to this letter and note that this counter and its installation were paid for by a private sponsor in exchange for a logo placement on the counter itself. At a cost of roughly $20,000, we imagine there are many businesses in the area who would jump at the opportunity.
- **Consider using powdered pavement additives if available instead of paint** to improve the longevity of the color surface treatment and improve friction in wet conditions.
- **Use permeable pavement** within new sidewalk segments in order to help the new street trees and plantings flourish while reducing storm runoff.

Lastly, we also encourage the DOT in its communications to publicize the relatively low cost of constructing protected bike lanes in this reconstruction project and the high return it is likely to have in mode shift toward active transportation.

In closing, we thank you, MassDOT, Mayor Joseph Curtatone and the City of Somerville for working collaboratively to make this design a reality. Your leadership on this trend-setting design for Beacon Street has been exemplary. We look forward to many years of safer cycling and improved neighborhood vitality along this important corridor in Somerville and Cambridge.

Regards,

Pete Stidman
Executive Director
Boston Cyclists Union

Boston Cyclists Union
P.O. Box 301394
Jamaica Plain, MA 02130
617-620-1989

Exhibit A

San Francisco Bike Counter Example

Brian Harris

41 Corinthian Road

Somerville, MA 02144

briancarlharris@gmail.com

617-861-7678

June 12, 2014

Patricia Leavenworth,

P.E. Chief Engineer, MassDOT

10 Park Plaza

Boston, MA 02116

Re: Beacon Street Reconstruction 75% Design Plaza

Project #607209

Patricia,

I wanted to express my excitement for the proposed improvements on Beacon Street. The utility, roadway, bike and pedestrian improvements are much needed and are highly anticipated by many! That being said I'm hopeful that some additional scrutiny and design focus can be dedicated to several aspects of the project as outlined below.

Concern

-The west side of Beacon Street as proposed has a cycletrack at the same grade as the sidewalk. My concern is that this space will be used by pedestrians, trash barrels, etc if it is not grade separated which will pose a hazard to pedestrians and bicyclists alike.

Suggested solution

-Drop the cycletrack to roadway height with a curb separating the parked cars from the cycletrack (Diagram 1, Photos 1&2) or drop the cycletrack to a height between the roadway surface and the sidewalk surface with a sloped curb similar to the east side of Beacon Street (Diagram 2). I'll add that Photo 1 is from Montreal, Quebec so the argument that it would be too difficult to clear snow doesn't hold up too well.

Diagram 1

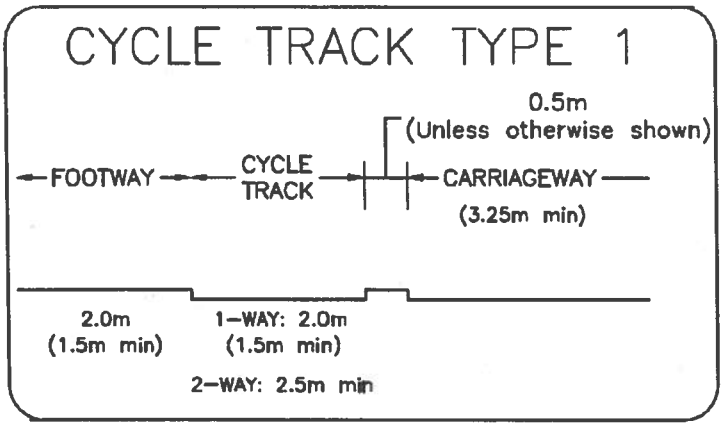
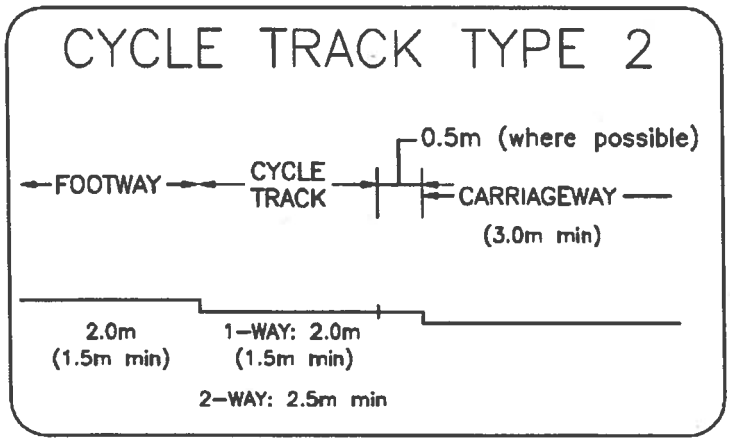


Photo 1

Photo 2

Diagram 2



Unfortunately Cambridge was the first in the area to implement cycletracks (Vassar Street, Concord Street) and they made the mistake of building them at the grade of the sidewalk and it seems that Somerville takes this to mean this is how cycletracks are supposed to be constructed. The City of Cambridge has already changed how they build cycletracks. You can see it in the latest cycletrack on Ames Street in Cambridge.

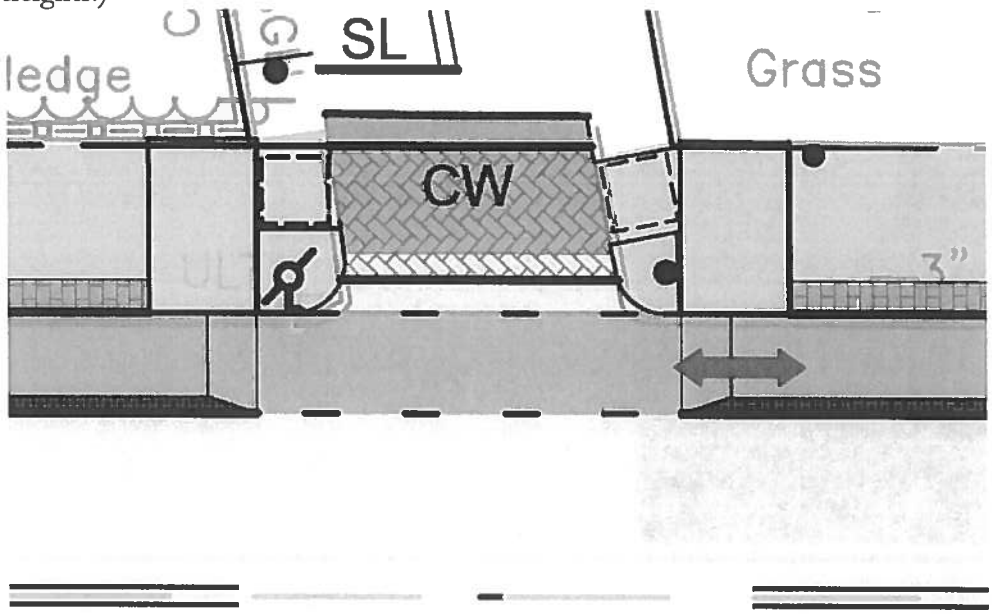
Concern

-With the raised height cycletrack each roadway crossing involves going down and back up a ramp. This is dangerous (tougher to stop and signal while going down a ramp) and uncomfortable and will result in faster cyclists taking the road instead.

Suggested Solution

-Raise the crosswalks at side roads to cycletrack height or drop the cycletrack to roadway height. The majority of the roadways on the eastern side of Beacon Street and dead-end streets due to the railroad right of way, therefore the limited traffic they receive shouldn't be given priority via the roadway grade over the cycletrack. In the instance were a ramp in the cycletrack is necessary increase the distance over which that the height changes (Diagram 3).

Diagram 3 (Red arrow shows example area where ramp could be more gradual in transition between heights.)



Concern

-The section between Museum Street and Washington Street is at the grade of the roadway without any separation from the roadway. This seems like a missed opportunity to create cycletrack instead of bike lane

Suggested Solution

-Raise this section to the height between the sidewalk and roadway surface to discourage vehicles from using the bicycle lane and create some physical separation (Photos 3, 4 and 5).

Photo 3

Photo 4

Photo 5

Thank you for the opportunity to comment and I'm looking forward to the final design!

Sincerely,

Brian Harris

lir

RECEIVED

JUN 18 2014

MassDOT
PROJECT MANAGEMENT

THE COMMONWEALTH OF MASSACHUSETTS
MASSACHUSETTS DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION

Federal Aid Project
Somerville, MA

Beacon Street Project
Project File No 607209

This sheet is provided for your comments. Your input is solicited and appreciated. Please return your sheet, with comments, to a staff member at the meeting, or mail to:

Patricia A. Leavenworth, P.E., Chief Engineer
MassDOT – Highway Division
10 Park Plaza, Boston, MA 02116-3973
Attn: Project Management Section

The final date for receipt of written statements and exhibits for inclusion into the official meeting transcript will be ten (10) days after the Public Meeting.

PLEASE TYPE OR PRINT LEGIBLY.

Thank you for putting together this project. It will be an incredible asset to the city, to Beacon St. biz owners, to the local community, & to the larger moto-network. Final details: Ped. crossing & cycle track @ side streets should remain at-grade. Also, 6' is not enough to allow bikes to safely pass each other. (YOU MAY SEE ACCIDENTS ON THE CURB WHILE PASSING.) Please narrow car, furniture space, sidewalk (or best a combination so none will be greatly affected) so bikes can have 7'. Wash/Kirkland needs a bike traffic signal. Needs. Also, where cycletrack merges Eastbound, signage for motorists to respect green lane will be necessary (in combination with regular enforcement.)

Name: Cecelia Cobb Title:

Organization: Somerville resident, employee @ Beacon St's Bicycle Belle

Address: 35 Central St #2 Somerville, MA 02143

THE COMMONWEALTH OF MASSACHUSETTS
MASSACHUSETTS DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION

RECEIVED
JUN 18 2014
MassDOT
PROJECT MANAGEMENT

Federal Aid Project
Somerville, MA

Beacon Street Project
Project File No 607209

This sheet is provided for your comments. Your input is solicited and appreciated. Please return your sheet, with comments, to a staff member at the meeting, or mail to:

Patricia A. Leavenworth, P.E., Chief Engineer
MassDOT – Highway Division
10 Park Plaza, Boston, MA 02116-3973
Attn: Project Management Section

The final date for receipt of written statements and exhibits for inclusion into the official meeting transcript will be ten (10) days after the Public Meeting.

PLEASE TYPE OR PRINT LEGIBLY.

I OWN BICYCLE BELLE, A FAMILY AND TRANSPORTATION BICYCLE SHOP AT 368 BEACON STREET, IN THE PROJECT AREA. I COMPLETELY SUPPORT THE CYCLETRACK PROJECT AND AM EXCITED THAT OUR CUSTOMERS, AND ALL RIDERS, WILL BE ABLE TO ENJOY A SAFER, MORE COMFORTABLE ROUTE DOWN THIS IMPORTANT REGIONAL TRANSPORTATION CORRIDOR. I WOULD ASK THAT YOU INCORPORATE RAISED CROSSINGS AT ALL SIDE STREETS ALONG THE CYCLETRACK. I THINK THAT A BICYCLE SIGNAL AT WASHINGTON WOULD ALSO BE OF BENEFIT. WE'RE LOOKING FORWARD TO IMPROVEMENTS AT OXFORD ST.

Name: CARLEE REDDIEN Title: OWNER
Organization: BICYCLE BELLE
Address: 368 BEACON ST, SOMERVILLE MA 02143

I LARGELY CHOSE THIS LOCATION TO OPEN MY SMALL BUSINESS BASED ON THE VOLUME OF BICYCLE TRAFFIC AND THE LOCATION OF THE PROPOSED CYCLETRACK. I NOW EMPLOY 4 LOCAL RESIDENTS, AND THINK THE CYCLETRACK WILL ONLY IMPROVE BUSINESS.

THE COMMONWEALTH OF MASSACHUSETTS
MASSACHUSETTS DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION

Federal Aid Project
Somerville, MA

Beacon Street Project
Project File No 607209

This sheet is provided for your comments. Your input is solicited and appreciated. Please return your sheet, with comments, to a staff member at the meeting, or mail to:

Patricia A. Leavenworth, P.E., Chief Engineer
MassDOT – Highway Division
10 Park Plaza, Boston, MA 02116-3973
Attn: Project Management Section

The final date for receipt of written statements and exhibits for inclusion into the official meeting transcript will be ten (10) days after the Public Meeting.

PLEASE TYPE OR PRINT LEGIBLY.

This project is enormously exciting. I am moving back into the area with my wife and son, and we are thrilled to be able to safely bicycle to local businesses with our child. This will be a life and neighborhood changing addition.

If possible, I'd love to see raised crosswalks at side streets to signal to cars that they will be crossing a cycletrack and to slow down. Also, I am concerned about the inclusion of a satellite lot -- how will this process be determined?

Finally, will plowing the cycletrack happen regularly?

Last comment - I will live right near the lost parking at Forest + Beacon, and I am not concerned.

Name: Jonathan Greiner Title:

Organization: [redacted]

Address: 29 Forest St #1 Somerville MA

Please Fold and Tape

Please Place Appropriate Postage Here

Patricia A. Leavenworth, P.E.
Chief Engineer
MassDOT – Highway Division
10 Park Plaza
Boston, MA 02116-3973

RE: Public Informational Meeting
Beacon Street Project
Somerville, MA
Project File No. 607209
Project Management Section

THE COMMONWEALTH OF MASSACHUSETTS
MASSACHUSETTS DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION

Federal Aid Project
Somerville, MA

Beacon Street Project
Project File No 607209

This sheet is provided for your comments. Your input is solicited and appreciated. Please return your sheet, with comments, to a staff member at the meeting, or mail to:

Patricia A. Leavenworth, P.E., Chief Engineer
MassDOT – Highway Division
10 Park Plaza, Boston, MA 02116-3973
Attn: Project Management Section

The final date for receipt of written statements and exhibits for inclusion into the official meeting transcript will be ten (10) days after the Public Meeting.

PLEASE TYPE OR PRINT LEGIBLY.

Looks like a great project. I'm glad to see the cycle tracks go in! To make the project even safer for all I would like to see the following improvements included:
A cycle track or bike lane that continues westbound to the Somerville Ave intersection, not just "share the road" markings
A bike box at Washington St. to allow for "Copenhagen" lefts
Raised crosswalks and cycle track crossings across all side streets
Moving the bus stop at Washington St. to the east side of the intersection to improve safety in front of Dali

Sincerely,

Name: Phil McKenna Title: member
Organization: Livable Streets
Address: 135 Willow St. Apt 3
Cambridge, MA 02141

Please Fold and Tape

Please Place Appropriate Postage Here

Patricia A. Leavenworth, P.E.
Chief Engineer
MassDOT – Highway Division
10 Park Plaza
Boston, MA 02116-3973

RE: Public Informational Meeting
Beacon Street Project
Somerville, MA
Project File No. 607209
Project Management Section

THE COMMONWEALTH OF MASSACHUSETTS
MASSACHUSETTS DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION

Federal Aid Project
Somerville, MA

Beacon Street Project
Project File No 607209

This sheet is provided for your comments. Your input is solicited and appreciated. Please return your sheet, with comments, to a staff member at the meeting, or mail to:

Patricia A. Leavenworth, P.E., Chief Engineer
MassDOT – Highway Division
10 Park Plaza, Boston, MA 02116-3973
Attn: Project Management Section

The final date for receipt of written statements and exhibits for inclusion into the official meeting transcript will be ten (10) days after the Public Meeting.

PLEASE TYPE OR PRINT LEGIBLY.

Thank you for an overall great project that benefits the community. Several improvements would make this much more successful:

(1) Keep cycletrack level (raised x-walk) across minor sidestreet

(2) Fund above using savings by eliminating pavers in crosswalk

(3) Extend cycletrack westbound to project boundary at Somerville Avenue, to increase safety + bike access

(4) Move eastbound Washington Street #83 bus stop to far side to eliminate right-turn conflicts

Name: Alex Epstein Title:
Organization: Resident
Address: 278 Beacon Street Apt. 55,
Somerville MA 02143

(5) Construct the cycletracks using same quality and depth bedbed as the travel lanes to make as smooth as the rest of the road.

Please Fold and Tape

Please Place Appropriate Postage Here

Patricia A. Leavenworth, P.E.
Chief Engineer
MassDOT – Highway Division
10 Park Plaza
Boston, MA 02116-3973

RE: Public Informational Meeting
Beacon Street Project
Somerville, MA
Project File No. 607209
Project Management Section

THE COMMONWEALTH OF MASSACHUSETTS
MASSACHUSETTS DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION

Federal Aid Project
Somerville, MA

Beacon Street Project
Project File No 607209

This sheet is provided for your comments. Your input is solicited and appreciated. Please return your sheet, with comments, to a staff member at the meeting, or mail to:

Patricia A. Leavenworth, P.E., Chief Engineer
MassDOT – Highway Division
10 Park Plaza, Boston, MA 02116-3973
Attn: Project Management Section

The final date for receipt of written statements and exhibits for inclusion into the official meeting transcript will be ten (10) days after the Public Meeting.

PLEASE TYPE OR PRINT LEGIBLY.

As a Somerville resident, I am extremely heartened by the city's commitment to pedestrian & cyclist comfort. Beacon St. is home to many wonderful businesses who deserve more foot traffic than they get now. I am also delighted to see the City choosing to be progressive by including cycletracks (!!!), bike boxes, and possibly (hopefully!) a two-stage Copenhagen left turn. I hope that these choices will be supported with other necessary design considerations, such as level side streets to avoid undulation of the cycle tracks, and bike-specific signalling for improved safety. I also urge the city to strongly consider the ends of the project in Inman & near Oxford/Somerville Ave. to ensure a pleasant, seamless experience.

Name: Ariel Horowitz Title: _____

Organization: _____

Address: 168 Albion St., Apt. #2, Somerville MA 02144

Please Fold and Tape

Please Place Appropriate Postage Here

Patricia A. Leavenworth, P.E.
Chief Engineer
MassDOT – Highway Division
10 Park Plaza
Boston, MA 02116-3973

RE: Public Informational Meeting
Beacon Street Project
Somerville, MA
Project File No. 607209
Project Management Section

THE COMMONWEALTH OF MASSACHUSETTS
MASSACHUSETTS DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION

Federal Aid Project
Somerville, MA

Beacon Street Project
Project File No 607209

This sheet is provided for your comments. Your input is solicited and appreciated. Please return your sheet, with comments, to a staff member at the meeting, or mail to:

Patricia A. Leavenworth, P.E., Chief Engineer
MassDOT – Highway Division
10 Park Plaza, Boston, MA 02116-3973
Attn: Project Management Section

The final date for receipt of written statements and exhibits for inclusion into the official meeting transcript will be ten (10) days after the Public Meeting.

PLEASE TYPE OR PRINT LEGIBLY.

- Please extend the bike lanes on the west end of the project to the project limits and coordinate the design with the City to extend the bike lanes to Somerville Ave.
- Please redesign the side street intersections so that the cycle track can continue at the same grade, the same way the cycle tracks continue across driveways. I understand that this might incur higher drainage costs.
- Please try to move the "Dali" bus stop to the east side.
- Please lower the speed limit to 20 MPH – plz. no lame excuses about it can't be done for some bureaucratic rule.
- I think the concerns ~~##~~ about the concrete paver/granite ~~side walks~~ crosswalks are valid and another selection should be selected.

Name: Alan Moore Title:
Organization: Somerville resident
Address: 23 Cherry St. Somerville 02144

Please Fold and Tape

Please Place Appropriate Postage Here

Patricia A. Leavenworth, P.E.
Chief Engineer
MassDOT – Highway Division
10 Park Plaza
Boston, MA 02116-3973

RE: Public Informational Meeting
Beacon Street Project
Somerville, MA
Project File No. 607209
Project Management Section

THE COMMONWEALTH OF MASSACHUSETTS
MASSACHUSETTS DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION

Federal Aid Project
Somerville, MA

Beacon Street Project
Project File No 607209

This sheet is provided for your comments. Your input is solicited and appreciated. Please return your sheet, with comments, to a staff member at the meeting, or mail to:

Patricia A. Leavenworth, P.E., Chief Engineer
MassDOT – Highway Division
10 Park Plaza, Boston, MA 02116-3973
Attn: Project Management Section

The final date for receipt of written statements and exhibits for inclusion into the official meeting transcript will be ten (10) days after the Public Meeting.

PLEASE TYPE OR PRINT LEGIBLY.

I am a homeowner on Beacon Street and I am very enthusiastic about the proposed improvements to Beacon Street, especially the inclusion of a cycletrack. It would be an even better project if the cycletrack were extended all the way to Inman Square. Other improvements would include Bicycle signal heads on the traffic lights, and raised cycle tracks at cross streets, such that automobiles crossing the cycle track would automatically be slowed upon approaching the intersection.

Name: KEN CARLSON Title:

Organization:

Address: 221 Beacon ST Unit 5 Somerville, MA

Please Fold and Tape

Please Place Appropriate Postage Here

Patricia A. Leavenworth, P.E.
Chief Engineer
MassDOT – Highway Division
10 Park Plaza
Boston, MA 02116-3973

RE: Public Informational Meeting
Beacon Street Project
Somerville, MA
Project File No. 607209
Project Management Section

[2 minutes]

"Not all cycle tracks are created equal".

It seems like these are the opening words of every cycle track safety study I read these days.

Cycle tracks are safer when they reenter the roadway before intersections. Cycle tracks are safer when there are few driveways and fewer side streets. Cycle tracks are safer when there are turn lanes.

I'd like to talk about a great cycle track. I rode down it this morning. It runs down Beacon Street from Museum Street to Washington Street. It's not an official cycle track but it might as well be, because there are fewer cars parked on that side of the street than there are blocking some of the official cycle tracks around here. There is only one right sideroad between Museum and Washington, and it's one way towards Beacon. There are almost no driveways. There's one driveway at the very end, next to a bus stop, that creates an unofficial right turn lane, and also a chance for cyclists to reenter the roadway. This cycle track could be extended all the way to the Cambridge city line and it'd be a cycle track safety model.

I'd like to talk about a terrible cycle track. It's proposed to run down Beacon Street from Oxford or Forest Street to Museum Street. There are lots of two-way side streets and even more driveways. There are no plans for turn lanes. The cycle track does not reenter the roadway at intersections. The parking removal will induce additional pedestrian street crossings because there's nothing like Line Street or Dimick Street to provide additional same-side resident parking. When I asked the city about making the side streets one way they said it would require consent from the abutters. When I asked about putting in turn lanes they said it would require a certain quantity of car traffic. And when we ask for more crosswalks we're told it's too disruptive to motor traffic.

This project isn't being driven by cycle track safety. The cycle track is just a convenient excuse to get some federal funding to repave the street. I'm all in favor of repaving the street but if we're not willing to change the project to make it safe, let's at least only build cycle track in places where it'd be safe anyway.

THE COMMONWEALTH OF MASSACHUSETTS
MASSACHUSETTS DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION

Federal Aid Project
Somerville, MA

Beacon Street Project
Project File No 607209

This sheet is provided for your comments. Your input is solicited and appreciated. Please return your sheet, with comments, to a staff member at the meeting, or mail to:

Patricia A. Leavenworth, P.E., Chief Engineer
MassDOT – Highway Division
10 Park Plaza, Boston, MA 02116-3973
Attn: Project Management Section

The final date for receipt of written statements and exhibits for inclusion into the official meeting transcript will be ten (10) days after the Public Meeting.

PLEASE TYPE OR PRINT LEGIBLY.

I work in Lexington and live near Kendall and regularly bike home down Beacon St. I am very much looking forward to getting to use these separated cycletracks. One thing that I would like to see more of is necking down of the road at intersections, especially Brwn Park St and Inman Sq to make it easier for pedestrians to cross. Especially if this can be done in a way that allows pedestrians to cross cyclist traffic separately from car traffic. At least something to protect pedestrians in the 7ft of parking on either side. So they're not on the road for (7ft parking + 5ft bike lane + 11ft car) × 2 = 46ft vs 32ft with bump-outs. Or even better use less than 11feet for the car lane

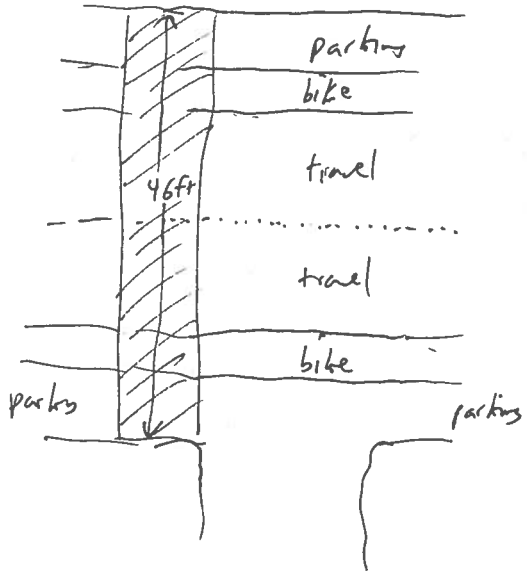
Name: Erik Wile Title:

Organization:

Address: 54 Webster Ave Apt 2R
Cambridge MA 02141

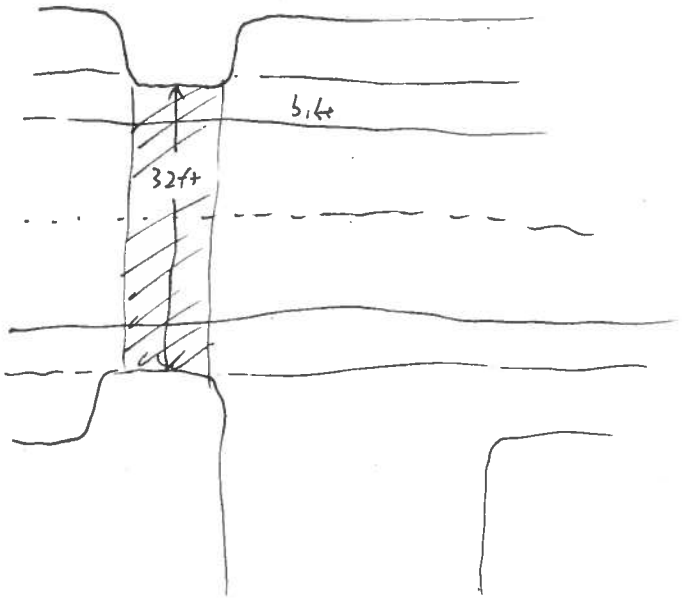
See encl.

currently proposed: 46ft

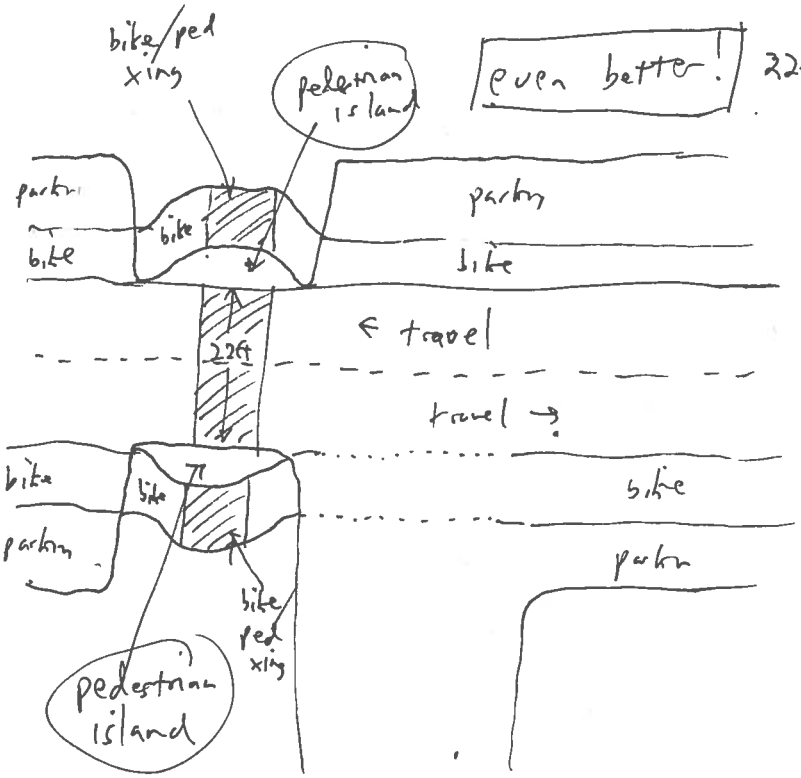


vs

my suggestion 32ft



even better! 22ft!



Erik Wile
54 Webster Ave Apt 2R
Cambridge MA 02141

Somerville Beacon Street 2014
FOUR LANES WITH SHARROWS

"Four Lanes flow better; Sharrows are safer."

Fr: Lauren Clayton 617.686.8829 (member, Institute Transportation Engineers, ergofix@hotmail.com)
Re: Executive Summary: Beacon Street "Alternative Plan – No Mountable Curbs"
Date: 04 February, 2013

Here's a mode sharing safety oriented plan that fairly accommodates all stakeholders,including cars, bikes and peds.

1. Four lanes, paved, end to end, without potholes.
2. Sharrows painted 12" from curb or "(bike) May Use Full Lane"(preferred) signs, non periodic, only at the beginning of major block (see Curtis St.).
3. 10' wide striped bi-directional bike-ped sidewalks.
4. NO nose outs, bulb outs, traffic islands, mountable curbs, raised crossings, reduced radius corners, green paint or bike boxes. Use inlaid "frost proof" brick for crossings (at street level) and sidewalks.
5. Signalized (push and hold) pedestrian crossings (many), w laser radar signs.
6. "No Parking – Street Sweeping/Plowing 7-9AM, inbound (or 5-7PM, outbound) signs, M-F.
7. 100% Retained parking, "Loading Zone 15 min Passenger" in front of laundry.
8. Take (by Eminent Domain) the "Wall" to provide sidewalk as necessary or (lane shift left (!)).
9. "Bikes Yield to Peds" signs on bi-directional sidewalks.
10. Upgrade bike corrals to four "Powderhouse Rings", locate bike rental off road.
11. Eliminates Racism, Class Warfare, Bigotry, and discrimination. Remember, a Road Diet is a hate crime.
12. No other proposed plan actually mitigates traffic flow. Four lanes are already multimodal for cars, bikes and peds. True multimodal includes ships, big trucks and aircraft.

Sharrow Advantages include: dynamic real mode sharing; 100% community parking retention; no dooring; no utility displacement; no Running Red Lights, No Contra Flow, and increased pedestrian safety.

Below: Willow and Summer, Jan 9, 2013 accident, mountable curb failure mode (pole and sign have been replaced); safer 9" non mountable curb on Summer.

June 11, 2014

Patricia Leavenworth, P.E., Chief Engineer
MassDOT Highway Division
10 Park Plaza, Suite 4160
Boston, MA 02116

Delivery by Adobe PDF via email to patricia.leavenworth@state.ma.us

Subject: Beacon St, Somerville Reconstruction (Project No. 607209)

Dear Ms. Leavenworth:

LivableStreets would like to provide some feedback and comments about the Beacon St Reconstruction Project in Somerville (Project No. 607209) in response to the 75% plans presented at the June 3, 2014 Design Public Informational Meeting.

We are very pleased overall with how the design for this project has progressed. It is shaping up to be an excellent example of how to transform an existing urban street into one that is more accessible, safer, easier to use, and aesthetically pleasing for everyone. We have a few comments to address some of the remaining issues that we hope you will seriously consider.

In terms of pedestrian access, the new sidewalks, curb extensions added crosswalks, and traffic signals with leading pedestrian intervals will be a big improvement, as will the many new trees that will help to make the street feel more intimate and welcoming for people walking. Two improvements we'd like you to make are:

- **Install continental style thermoplastic crosswalks (as used throughout the rest of the city) instead of paver crosswalks.** Paver crosswalks are not good for people in wheelchairs or people pushing strollers because they are not smooth. They also require more frequent maintenance, as the pavers heave over time due the wear and tear put on them by motor vehicles. Using thermoplastic will result in a more comfortable and accessible walking surface and will save money now and in the future. This savings could be used to help pay for raising some of the pedestrian/bicycle crossings, as described in the next section.

LivableStreets Rethinking urban transportation
LivableStreets Alliance 70 Pacific St. / @Sidney Cambridge MA 02139 T: 617.621.1746 F: 617.716.2085 info@livablestreets.info livablestreets.info

- **Ensure that pedestrian walk phases are automatic as much as is possible and last as long as the concurrent green vehicular phases.** If the traffic signals are on a fixed cycle, please ensure that each the walk phases come up automatically as well. If the signals rest on green for Beacon St, please ensure that the concurrent walk phase is displayed as well, and do not countdown until a car approaches on the side street (Park St or Washington St). When a vehicle pulls up to a side street and triggers a green light, please ensure that the concurrent walk phase is triggered as well. Essentially, in the worst case scenario, a pedestrian should only need to press a button for a walk signal if they wish to cross Beacon St and no vehicle has approached and triggered the signal on the side street.

The details of the cycle tracks in particular have improved with each revision. We like that they will be painted green and that the inbound one against on-street parking will have an unpainted buffer to allow for car doors opening. **The big remaining improvement to the cycle tracks that we would like to see is to keep the cycle track crossings (and pedestrian crosswalks) raised at minor side streets** (with the exception of Park St and Washington St). We understand that there are significant challenges to doing so, both in terms of cost and logistics due to the changes to grading and drainage structures that would be needed. One construction method to investigate is using steel plates over culverts to avoid needing to install additional catch basins. If construction costs are still prohibitive, we suggest that you design the raised crossings that cannot be constructed now so that they could be constructed later. We hope you will continue to explore making this possible at as many of the side streets as possible.

Other improvements we would like to see to the project are as follows:

- **Extend the westbound cycle track from Oxford St to the project limit (and widen the sidewalk), by removing the planned second westbound travel lane. Alternatively, create a westbound bike lane through this section.** The second westbound lane does not exist today, and it's key to connect the new bicycle facilities with the bike lanes just prior to Somerville Ave. The proposed second travel lane would create a stressful merge point and prevent bicyclists from being able to filter forward to the intersection. A westbound cycle track would be ideal in this section since it would keep cars out, particularly since there is a slight curve in the road, although a bike lane would certainly be much preferred over a shared lane with sharrow. We'd also like to see a bike box for guiding cyclists who are turning left at Somerville Ave (outside of this project), however the facilities in this project can help to better guide bicyclists who are preparing to turn left onto Somerville Ave. [See marked-up plans attached to this letter.]

- **Add two-stage left turn bike boxes at Park St and Washington St to facilitate left turns at all 4 approaches.** We are glad these are being added for left turns from Beacon St to Washington St, however, we hope to see them for turning from Washington St to Beacon St as well. These boxes provide bicyclists with spaces to make left turns in a much less stressful way

than merging left and waiting for a gap in traffic. [See marked-up plans attached to this letter.]

- **Add sharrows in the center of the through lanes on Washington St before and after the Beacon St intersection.** This will communicate clearly to bicyclists and motorists that bicyclists should "take the lane" here.

- **Bump out the curb along the eastbound bus stop at Washington St to prevent it from being used as a de-facto right turn.** As currently designed, the bus stop in front of Dali will be used as a de-facto right turn lane by motorists when a bus is not occupying it. We recommend bumping out the curb all the way to the bike lane. This not only prevents the space from being used illegally by motorists, but creates easier access for the bus to pull out of and back into traffic. Once the de-facto turn lane is eliminated by widening the sidewalk, (1) the bus stop could remain in this location (the bus would then stop in the bike lane, as it does in other locations such as on Somerville Ave), or (2) the bus stop could be relocated to the far side of the intersection (and sidewalk bumped out accordingly there as well). We recommend the first solution since it would not impact on-street parking. In addition, the extra sidewalk space created by the bump out creates more room for people waiting for the bus (or for use by the adjacent businesses.) [See marked-up plans attached to this letter.]

- **Bump out the curb along the westbound bus stop at Washington St to allow for easier bus access.** As currently designed, the westbound bus stop is just prior to a curb extension for pedestrians. The curb extension is a very good thing, but makes it difficult for bus to pull back out into traffic. Similar to the eastbound bus stop, we recommend bumping out the curb at the bus stop to create more space for waiting passengers (or for use by the adjacent businesses) and create easier access for the bus itself. The Route 83 bus only comes 3 times per hour at the most, so the amount of time where a bus would be stopped in the bike lane (and part of travel lane) is quite small, likely no more than one minute total per hour. [See marked-up plans attached to this letter.]

We are also pleased to see that innovative solutions are still being explored to mitigate the on-street parking loss, including changes to parking regulations, addition of an off-street lot for residents, and possibly a new Beacon Street residential permit zone. We have two simple recommendations that we think would help the parking situation greatly:

- **Add meters in front of businesses and only allow residential parking at those spaces overnight (for example from 8 pm to 8 am).** This will prioritize those spaces for customers and encourage turnover, and will prevent Somerville residential permit holders from occupying prime customer parking during the day and evening.

- **Make the spaces away from businesses resident only at all times (with no 2-hour parking for non-residents.)** This will prioritize the parking in the more residential areas for residential permit holders. People visiting residents would of course be able to use guest permits in these spaces.

Attached to this letter are marked up plans showing some of our ideas and suggestions.

Once again, thank you for taking our comments into account as this project moves forward. It is great to see Somerville and MassDOT embracing some of the latest ideas in complete street design. If you have any questions, please contact Charlie Denison, Advocacy Committee Chair, who may be reached at 617.621.1746 and charlie@livablestreets.info.

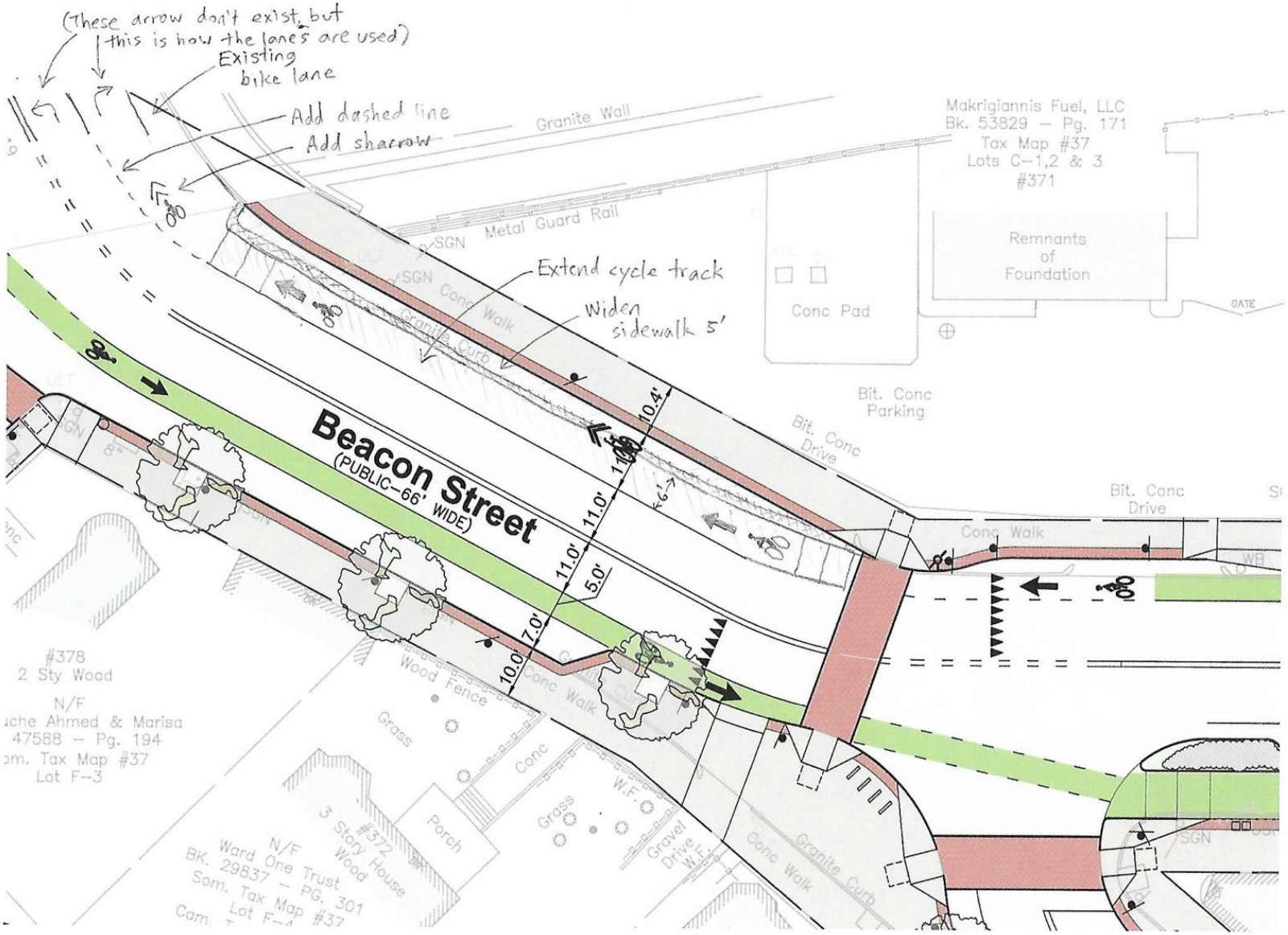
Sincerely,

Charlie Denison

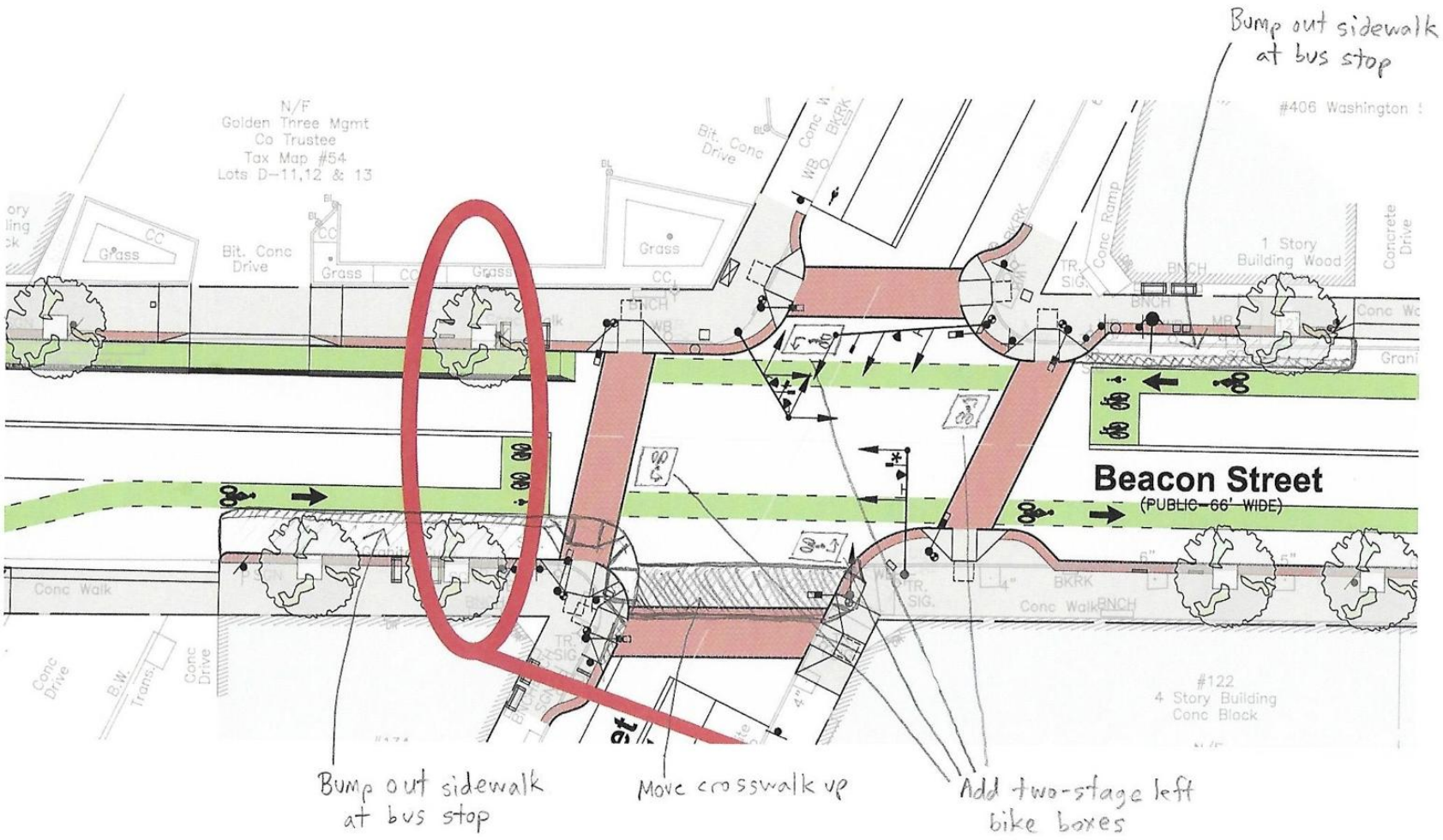
Charlie Denison
Advocacy Committee Chair
LivableStreets Alliance

CC:
Shawn Holland, Project Manager, MassDOT <shawn.holland@state.ma.us>
Hayes Morrison, Director of Transportation and Infrastructure, City of Somerville <hmorrison@somervillema.gov>
Maryann Heuston, Ward 2 Alderman, Somerville <mheuston@hotmail.com>
Misrak Sultan, Bicycle/Pedestrian Coordinator, MassDOT District 4 <misrak.sultan@state.ma.us>
Tom DiPaolo, Assistant Chief Engineer, MassDOT <Thomas.DiPaolo@state.ma.us>
Lou Rabito, Bicycle/Pedestrian Engineer, MassDOT <Luciano.Rabito@state.ma.us>

Suggestions for improvements west of Oxford St:



Suggestions for improvements at Washington St:



Project Management Section, Project File No. 607209

Paul Schimek, Ph.D.
50 Saint Rose
Jamaica Plain, MA 02130

To: Thomas F. Broderick, P.E., Chief Engineer
Attention: Project Management Section, Project File No. 607209 (Beacon Street, Somerville)

Dear Mr. Broderick,

I am a transportation professional, bicyclist, and longtime bicycling advocate. I am writing to express a number of concerns regarding the design of the proposed project. I strongly urge MassDOT to reject the current design because it contains unproved, experimental features (cycle tracks) that will increase crashes and injuries, according to a large body of research. Approving this design will create a precedent that may lead to the widespread deployment of these dangerous facilities across the Commonwealth.

Over my career I have served as a member of bicycling committees for the City of Boston and the City of Cambridge, and have served as a member of the board of directors of both the Charles River Wheelmen and the Massachusetts Bicycle Coalition, including a year as President of the latter.

I would like to point out the following items in this comment letter:

- The known hazards of cycle tracks that have emerged from the research have been deliberately misinterpreted by the City of Somerville's consultants, DCI.
- Recent bicycle crash data from Cambridge show that cycle tracks do not address the safety problem, and would make things worse.
- Because of the known issues concerning paths adjacent to roadways, MassDOT's design guidelines do not permit the design that DCI has proposed.
- The intersection hazards of cycle tracks have been addressed to a certain extent by New York City, but the DCI design does not even include these features.
- Adding cycle tracks as proposed would create an ambiguous legal situation for bicyclists, and would expose them to greater harassment and assault from drivers of motor vehicles.
- There are much better alternatives to the currently proposed design.

Known Hazards of Cycle Tracks

The Design Exception Report submitted by DCI to the City of Somerville references two studies relating to cycle track safety:

1. S. U. Jensen study on bike lanes and cycle tracks in Copenhagen.
DCI state that the reported crash statistics in the study represent "only a comparison between a predicted model value and the actual observed value. A much more appropriate comparison would be to compare the crash results from before the installation of the cycle tracks to the crash results after the installation of the cycle tracks." This statement from DCI is false: as is well known, it is not appropriate to compare before and after numbers of injuries or crashes without adjusting for known confounding factors such as a change in the number of bicyclists and the tendency of improvements to be added at locations where there have previously been crashes.

In fact, this careful and large study showed a 10% **increase** in overall crashes due to installing cycle tracks, after controlling for citywide trends and the regression to mean effect. Notably, it showed a statistically significant **24% increase in bike crashes at intersections**, and the reason that the overall increase was not higher, is that the data showed an unusually high percent of crashes not at intersections (which had a statistically insignificant 13% decrease). The study showed a **129% increase in right-turning bike-motor vehicle collisions**. There was also **an 80% increase in bicycle and pedestrian crashes** (these are from Table 4 of the paper included in the Design Exception Report). This careful study does **not** support safety benefits of cycle tracks. Jensen says bluntly, **"Bicyclists' safety has worsened due to these facilities."** Moreover, there is reason to believe that the results would be worse in Massachusetts, because Copenhagen drivers are trained to yield to bicyclists before turning right, and because Copenhagen has worked hard to improve intersection safety of cycle tracks, such as by prohibiting parking anywhere near intersections.

2. Lusk, Furth, et al. study on cycle tracks in Montreal.
DCI instead points to this study as showing that cycle tracks improve safety. This study compared cycle track streets with selected nearby control streets with no cycle tracks (and no bike lanes). However, the “control” streets were **not** comparable to the cycle track streets in terms of lane width, parking, traffic volume, and traffic speed. The study concluded that the relative risk of cycle tracks is only 0.72 that of control streets -- about 28% fewer crashes. However, the study also found that on three of the six cycle tracks studied the risk was lower, but on the other three there was no statistically significant difference. Why is this? The authors do not explain, except to say that "the sample of six cycle tracks was too small to determine which factors make some safer." They found crash rates of 2, 3, 14, 16, 16, and 19 per million bicycle km for the 6 different cycle track segments, a nearly 10-fold increase in risk between the safest and the most dangerous. Why is that? They don’t address this. What kind of crashes are these? Intersections? Turning cars? Bike-bike? Bike-ped? They do not know from their data. All other studies that have looked at collision types (such as the Jensen study) show a large increase in right hook crashes. Given that they did not look at crash types, did provide comparable controls, found that only 3 out of 6 cycle tracks were safer than the selected control, and found that there was a nearly 10-fold difference in crash rates on the safest cycle track compared to the least safe one, we can have no confidence at all in the conclusions of this study.

I also wish to reference a third study:

3. Teschke, et al, "Route Infrastructure and the Risk of Injuries to Bicyclists: A Case-Crossover Study

A more recent study of bicycle facilities in Toronto & Vancouver can be found at http://ajph.aphapublications.org/doi/pdf/10.2105/AJPH.2012.300762. This study has been citied to show the safety benefits of cycle tracks, but it was done when there were **no cycle tracks in Toronto and hardly any Vancouver**. Almost all of the "cycle track" mileage at the time of the study consisted of an ordinary bike path on the 1-mile Burrard Bridge, a segment which has no intersections or driveways. Their conclusions were based on finding 2 injuries on cycle tracks but predicting 10 injuries based on their subject's travel routes. However, this study did find, with strong evidence, that streetcar tracks increase the risk of bicycle injuries by 300% (95% confidence interval of 180% to 510%), riding downhill increases the risk by 230% (95% confidence interval of 170% to 310%) and that on-street parking increases the risk by 40%.

Recent Bicycle Crash Data from Cambridge

Cambridge did a study of all police-reported car-bike collisions between 2004 and 2008. Beacon Street in Somerville is likely to have very similar collision circumstances as in adjacent Cambridge. The study classified the collisions into the following types:

Crash Type	Count	Percent
Motorist left turn*	93	21.6%
Bicyclist hits door of parked car	87	20.2%
Bicyclist fails to yield at sign or signal	25	5.8%
Motorist fails to yield at sign or signal*	5	1.2%
Other "angle" crash at intersection*	27	6.3%
Motorist right turn*	45	10.5%
Motorist sideswipes bicyclist	22	5.1%
Bicyclist wrong way (not otherwise indicated)	23	5.3%
Bicyclist in crosswalk	22	5.1%
Bicyclist turns left into motor vehicle*	11	2.6%
Other (driveway, rear end, U-turn)	70	16%
TOTAL	430	100%
*Bicyclist could have been on the wrong side of the road.		

These results show that *the large majority of crashes are intersection related*, and that 1/3 involve a motorist turning right or left at an intersection or driveway (21.6% + 10.5%=32.1%). "Doorings" – where a bicyclist riding in "the door zone" is hit by a suddenly opened door – account for fully 20% of car-bike collisions in Cambridge. Sideswipe collisions account for only 5% of crashes. Bicycling on the wrong side of the road is also a major factor among collisions, since many of the collision types other than the 5% labeled "bicyclist wrong way" also involve wrong-way bicyclists.

Based on this data, cycle tracks are likely to increase crashes to the extent that they:

- Constrain cyclists to ride to the right of right-turning vehicles at all times.

- Reduce the visibility of bicyclists to turning and entering motorists.
- Encourage wrong-way riding.

On the other hand, removing on-street parking can reduce car-bike collisions by:

- Eliminating the door zone.
- Providing more width on the street so that novice cyclists are not afraid to ride outside the door zone.
- Provide more overall road width to reduce sideswipe collisions.

The Proposed Design Does not Follow MassDOT Standards

The MassDOT Project Development & Design Guide does not include cycle tracks as proposed for Beacon Street as an approved bike accommodation. Given the hazards of urban paths alongside ordinary roads, this gap is not an oversight but a deliberate policy, as can be seen from the language of the Guide.

The Guide states clearly that “Approaches to bicycle accommodation include bicycle lanes, the use of shoulders, and shared roadways.” However, “Off-road shared-use or bicycle paths (see Chapter 11 for more details) are also an option for bicycle accommodation **in some limited cases**. (p. 5-19)” These “shared use paths” are **not** cycle tracks, since “Shared use paths are facilities on exclusive right-of-way with minimal cross flow by motor vehicles.” This is not the case for Beacon Street, which has 4 cross streets and 22 driveways on the northbound section of proposed cycle track and 4 cross streets and 17 driveways on the southbound section.

Furthermore, shared use paths are not acceptable “accommodation” for bicyclists on city streets, who will have ample reason (and legal right) to continue using the street, not the path. The Guide specifically states that “Shared use paths should be thought of as a complementary system of off-road transportation routes for bicyclists and others that serves as a necessary extension to the roadway network. The presence of a shared use path near a roadway does not eliminate the need to accommodate bicyclists within a roadway. (p. 5-24)” Echoing the AASHTO Bicycle Guide, Chapter 11 provides some more detail on this point:

“Shared use paths are not a substitute for street improvements, even if there is sufficient space to locate the path adjacent to the roadway. Some operational problems with paths adjacent to roads are:

- Bicyclists will be riding against the normal flow of traffic, contrary to the rules of the road. When a path ends, bicyclists riding against traffic may continue riding on the wrong side of the street.
- At intersections, motorists entering or crossing the roadway often do not notice bicyclists approaching from the right, as they are not expecting any traffic from that direction.
- Barriers used to separate motor vehicle traffic from path users can obstruct sight lines along both facilities and can reduce access to and across the path.

- Snow plowed from the adjacent roadway can obstruct the path. (p. 11-8)"

Even if one ignores the fact that Beacon Street is not a suitable place for an off-street path per the design guidelines, the proposed design does not meet the requirements for off-street paths, which require separation from an adjacent road: "wide separation between a shared use path and the adjacent highway is desirable. This demonstrates to both the bicyclist and the motorist that the path functions as an independent facility for bicyclists and others. This separation area also acts as a "recovery zone" for path users. A 7-foot separation between the edge of the shoulder and the shared use path is recommended with the minimum being 5 feet. (p. 11-9)". Furthermore, although the Guide contemplates one-way paths "rarely" "and only in a special situation, such as to circumvent mature trees or connect to parallel paths," the Guide adds that "It should be recognized that one-way paths often will be used as two-way facilities unless effective measures are taken to assure one-way operation. Without such enforcement, it should be assumed that shared use paths would be used as two-way facilities by both pedestrians and bicyclists and designed accordingly. (p. 11-9)" The proposed Beacon Street design does not meet the width requirements for two-way paths.

Design Details

On-Street Parking Side
The current design proposal does not give sufficient details of intersection treatments. It appears, however, that on the side where it is permitted, on-street parking will continue all the way up to driveways and most of the way up to intersections. These details are specifically contrary to the practices of Copenhagen and New York City, which have found that providing either separate bicycle signals or at least sufficient sight and merging distance at intersections is essential to making the facilities at least moderately safe (although, as noted, the most careful recent study found that the net effect was to increase collisions despite these efforts). Having parked cars block the view of bicyclists at intersections and driveways will be extremely dangerous. Yet improving the situation would require the elimination of significantly more parking than would otherwise be necessary just to provide sufficient width for parking. Moreover, the City of Somerville is essentially admitting that it will be politically impossible to remove enough parking to make those intersections safe.

No-Parking Side
The current design calls for a small (3 inch) mountable curb between the travel lane and the cycle track on the side where there is no on-street parking. By intent, motorists will be able if necessary to mount this small curb and thus enter the cycle track (e.g., for temporary parking). If so, there is nothing to prevent a texting or drunk driver from mounting this curb and running into a bicyclist -- which apparently is the reason for having a cycle track in the first place. At the same time, DCI says that cyclists will be able to cross the curb to move from cycle track to travel lane. But what about moving back in the other direction? The curb could produce a "diverting" fall, which is the kind that occurs when a bicycle wheel tracks along a longitudinal bump or joint, and the rider

is unable to balance. Are there any existing examples of such curbing that could be tested for their safety in this regard?

Laws

Under current law, bicyclists are permitted to use sidewalks outside of business districts unless otherwise restricting by local ordinance. Somerville traffic laws list sidewalk-bicycling prohibited areas, and none of these include Beacon Street. However, bicyclists riding on the sidewalk must follow the rules for pedestrians. One of these rules is: "No pedestrian shall suddenly leave a sidewalk or safety island and walk or run into the path of a vehicle which is so close that it is impossible for the driver to yield the right of way." This means that bicyclists on the sidewalk should pause at every single crosswalk and driveway to make sure no vehicle is coming close. For children riding slowly on the sidewalk this is acceptable. For adults bicycling to work, it is not. Bicyclists who know of the additional risk will be forced to ride very slowly, and many more bicyclists will unwittingly take on additional risk.

Although with the cycle track it is expected that bicyclists will use the “track” and pedestrians will use the “sidewalk,” there is no law requiring this. Somerville rules say that "Pedestrians . . . are permitted to use bicycle paths.” People will be able to walk along the cycle track, even three abreast, stand on it to wait for a bus, store trash cans on it, or temporarily place furniture and hand trucks on it. Even if Somerville attempts to prohibit this behavior, it will occur anyhow. By contrast, pedestrians are specifically prohibited from walking on roadways, and practice generally follows this law (except in snow emergencies).

At the same time, under Massachusetts law, bicyclists have a legal right to use the travel lanes of public roads, even if there is an adjacent bicycle path. Many cyclists will find that the cycle track is too dangerous and slow, or is blocked by snow or trash cans. Yet if they choose to ride on the roadway, they cannot help but occupy all of the single travel lane in the current design. Many motorists, seeing the adjacent bike path, will honk and scream at bicyclists, and in some cases will assault them (including by deliberately passing too closely, or pulling in front and stopping short).

Alternatives

Approving this design would create a bad precedent. I would point out that Illinois DOT recently has told the City of Chicago to wait for further study before adding cycle tracks. According to a press account, IDOT said, "We don't want to make decisions on a scattershot basis. Our traffic engineers want to see more data on the impact of protected bike lanes" including these concerns: the visibility of cyclists at intersections and operational issues like maintenance and snow-removal around protected bike lanes. Approving protected bike lanes for Chicago would open the floodgates to allowing all other local governments in the state to do the same, according to IDOT. Source:
http://www.chicagotribune.com/classified/automotive/ct-met-getting-around-0211-20130211,0,5097859.column?track=rss&utm_source=buffer&buffer_share=7cd9c

The above discussion should make it amply clear that cycle tracks increase collision rates for urban bicycling, that cyclists who continue to exercise their right to use the road will not be accommodated, contrary to MassDOT's own policies, and that an effort to make the cycle track behind the parking lane even moderately safe would require the elimination of far more parking than the community is willing to tolerate. Moreover, on the other side, cyclists are no more protected from errant motorists than they would with an ordinary bike lane.

To the extent that there is merit in the plan compared to the current condition of narrow bike lanes next to parked cars, it comes from removing on-street parking. This removes the threat of "dooring" on one side and provides enough room to add a buffer zone between the bike lane and the **parked** cars on the other side. If politically feasible, this is clearly the safest design for bicycling, given the figures cited above on the frequency of dooring collisions and intersection collisions. Merely removing parking on one side and using the remaining space for improved bike lanes (adjacent to sidewalk and adjacent to buffer zone rather than adjacent to parked cars) would require significantly less parking removal than that needed for cycle tracks. As has been noted by others, there are opportunities to increase the effective amount of car parking available by increasing the number of metered spaces, meter rates and time restrictions, and by sharing available off-street parking.

In areas where parking removal is not possible, the second-best solution is to use shared lane markings sufficiently far away from parked cars to encourage cyclists to ride outside of the door zone.

SOMERVILLE BICYCLE ADVISORY COMMITTEE

Mayor Joseph A. Curtatone

May 23, 2014

Hayes Morrison, Director of Transportation and Infrastructure
City of Somerville
93 Highland Avenue
Somerville, MA 02143

RE: Beacon Street 75% Design Comment Letter

Dear Ms Morrison:

The Bicycle Advisory Committee would like to take this opportunity to thank you for your steady public commitment to better bicycling in Somerville, specifically to premiering cycletracks on the city's busiest bicycle corridor, Beacon Street. We are thrilled by the inclusion of physically protected cycletracks, and we sincerely hope that the Beacon Street project's success will be the basis for constructing a network of additional cycletracks on several other corridors throughout the City.

However, **we believe that a couple of design details are critical for Beacon Street's proposed bike facilities to be deemed "successful" by the Somerville bicycling community and to serve as a model for future projects.** We have prioritized these design improvement requests below, singling out our top recommendations. **We respectfully request your support for implementing them in the Beacon Street project and for any relatively small additional funding necessary to do so.**

1. **Include raised crosswalks for the cycletracks across all side streets to keep it level at intersections rather than ascending and descending to meet roadway grade.** The up-and-down experience of the Concord Avenue westbound cycletrack in Cambridge was so highly criticized that it derailed cycletrack planning on at least one subsequent project. Cambridge learned from its mistake when it designed the Western Avenue cycletrack, which will now feature raised crosswalks and opens this summer. **Somerville should similarly learn from Cambridge's mistake and not repeat it.**

   We recognize that raised crosswalks will add some additional expense, but **to help fund them, we recommend replacing the unpopular and expensive paver crosswalks (across Beacon Street) that have been proposed with cheaper, more visible, and more disabled-community-friendly thermoplastic continental crosswalks.** The savings realized from making this simple substitution can be allocated to the raised crosswalks to keep the cycletrack level.

   To potentially further reduce the cost of keeping the cycletrack level, we offer examples of steel plate raised crosswalks that together with street sweeping maintenance show one way to address the project engineers' drainage concerns.

Drainage Concept at Raised Crosswalk

2. Since a bicycle facility is only as strong as it weakest link, **we also respectfully request your support of the following two design changes to provide safe connectivity at either end of the cycletrack:**

    a. **Connect the westbound cycletrack to Somerville Ave, so that bicyclists traveling in a protected cycletrack environment are not abruptly dumped into the middle of a travel lane with only a sharrow.** This can be accomplished by removing the proposed right-hand travel lane, which does not exist today and we do not believe is warranted given current usage of the intersection. Then either the westbound cycletrack itself could be extended at the western end or it could transition to a bike lane that connects to the existing bike lane at the Somerville Ave intersection.

    b. **Move the proposed eastbound Route 83 bus stop at Washington Street (in front of Dali) to the far side of Washington Street (by Bergamot) and extend the curb to the bike lane.** The purpose is to avoid the right turn conflicts that we believe will occur every day when eastbound drivers on Beacon Street will cut across the bike lane to illegally use the empty bus stop to make right turns.

3. **Use high-quality deep roadbed construction at the cycletrack to maintain pavement quality over the long term.** It is important that the cycletrack remain in good condition and not deteriorate faster than the main roadway, as may be the case on Vassar Street in Cambridge.

Finally, the Bicycle Committee recommends that this project, which offers the City a rare opportunity to leapfrog street design from hostile to family-friendly, implement the two following features to the bicycle facilities to make the Beacon Street corridor safe enough for 5-year-old children to use on their own bicycles:

4. **Install two-stage left ("Copenhagen left") turn boxes at the Washington Street and Park Street intersections on the far side of each crosswalk,** similar to how they are being installed in the interim McGrath Highway improvements project, and consistent with the NACTO standards endorsed by the City's complete streets ordinance. While they involve no more than adding paint, they provide a comfortable and safe way for traffic intolerant cyclists (like 5-year-olds) to make left turns.

Two-Stage Left concept

5. **Install bicycle signal heads on the cycletrack at the Washington Street and Park Street intersections.** These have been adopted in other major U.S. cities to provide protected signal phases for bicyclists, which can be replicated on Beacon Street in the future. Even providing a leading bicycle interval in the near-term on Beacon Street with these signals, identical to the pedestrian leading interval, justifies consideration bicycle signal heads in this project.

Example bicycle signal heads

Thank you again for your continued steadfast support of cycletracks on this Complete Street corridor and elsewhere in our city. Please let me know if you have any questions.

Sincerely,
Alex Epstein

Chairman
Somerville Bicycle Advisory Committee

cc: Mayor Curtatone, Sarah Spicer, Sr Transportation Planner